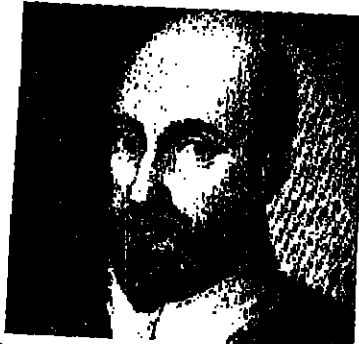


"All of a sudden, we're the good boys of the system!" Six years ago TEESIDE Polytechnic was down and almost out. Today it is back on top and heading for a brave new high-technology future (page 11)

Do students really need to buy BOOKS? Peter Mann argues that despite a decline in both the money students spend on books and library budgets in universities and polytechnics academic standards do not seem to have suffered, and asks why (page 13)

BEST BUY: Robin Marris argues that the economic rate of return on university education is so high that there is an overwhelming case for renewed expansion (pages 14-15)



Laurence Kitchen maintains that the Italian poet TASSO has been ignored by the major English critics for more than a century (page 16)

J.R. Watson reviews two new books on the PRE-RAPHAELITES and more detailed studies of Hunt and Rossetti. In his view they demonstrate that Pre-Raphaelite painting can be the refreshment to the mind and spirit the brotherhood intended (page 19)

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The Oxbridge entry jungle
Iain Wright on Edward Said
Management: an eight-page report

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The promise of Jarratt

The proposal that there should be an efficiency study of management systems and methods in universities seems to have been handled by the vice-chancellors' committees like an unexploded bomb liable to go off at the slightest tremor. Ever since the proposal was first made by the Department of Education and Science before Christmas there have been protracted and delicate behind-the-scenes negotiations to ensure first that a suitably sensitive chairman was chosen to head the steering group to monitor the study and second that the terms of reference were sufficiently tightly drawn to discourage trespassing in the forbidden territory of academic judgments.

The vice chancellors have succeeded completely in the first of their objectives. What was immediately and inevitably christened a "Rayner-style" inquiry is to be controlled by a steering group chaired by the much less threatening figure of Sir Alex Jarratt, chairman of Reed International but also chancellor of Birmingham University. The fear that the universities were about to be subjected to some total Spencer management regime has receded.

They have three quarters succeeded in the second of their objectives. In his letter to Sir Keith Joseph that sealed the agreement between the DES and the vice chancellors' committee, Lord Flowers, chairman of the committee, devotes a lengthy paragraph to a description of what the efficiency study should, and should not, inquire into during its investigation of university efficiency. Off limits is academic policy, priorities between disciplines, the balance between undergraduate and postgraduate teaching, resources devoted to teaching and research, and so on.

In his confirmatory reply the Secretary of State uses significantly different language. He simply confirms that he is happy with the general approach and its emphasis on resource allocation procedures - but then adds significantly "which, I understand, will extend to indicators about costs and performance without of course trespassing directly on major matters of academic judgment".

Some may interpret the differences between the two letters as a conflict

between the sinister and malevolent desire of Sir Keith to interfere in the internal academic business of the universities, and the courageous determination of Lord Flowers to prevent him or any other politician looking inside the black box. But a better interpretation is simply that Sir Keith is being realistic. Management systems cannot be judged *in vitro* but only within the living context of the purposes which they are designed to forward; their performance cannot be reviewed without paying some attention to what they are meant to achieve.

This does not mean that a crowd of ignorant and inquisitive time-wasting people should be allowed to rampage through the universities looking for "waste". It does mean that the difficult question of where management and administration end and academic policy begins. What we face is a spectrum of interlocking activities that range from the bulk purchasing of paper clips at one end to scholarly and scientific judgments at the other.

The difficulty is that in this efficiency study the most interesting and controversial questions will almost certainly arise in that grey area in the middle of the spectrum where management and policy mingle confusingly. Few people doubt that university administrations are more than averagely competent in day-to-day management. Even fewer think that a study of management systems and methods is an appropriate instrument to question the academic judgments made by university teachers in their research or teaching. So the present study is about the two extremes of the spectrum, the purely administrative and the unambiguously academic, but about the middle.

For it is here that the managerial performance of an institution is decided. The best administration in the world is not much help in a university with lousy academic policies, and the efforts of the brightest scientists and scholars will be dragged down if they have to operate in a badly-run university. Sound management can do a lot to allow an institution to realize its academic potential as the example of Teesside Polytechnic since 1978 has shown (page 11).

So it may be a mistake for the



Laurie Taylor
The Committee of Vice-Chancellors and Principals to gain control of Data Protection Act

Now then, Flintoff, to be the trouble? It's my assessment that Principles of Linguistics doesn't seem to reflect during the last three years. Let's not get over-excited. Lower second, sir, I'm an upper.

Well, that's not the world, Flintoff. Good no. You could have just thought about that. Yes, but you see I'm getting on very well with Dr Wernitz and I think Oh what nonsense, Flintoff, it really is funny. Students get such a kick out of the truth is we're not mind at rest, I might as well report from Dr Wernitz. I don't think it's help matters. You'd have an appreciation of the way in which marks are brought to the grades themselves. I'd appreciate it, sir. If you insist, Flintoff, to go through the report. There's no second no. Mmm... As far as it's all quite standard. Wernitz in line with what practice first produced. What sort of thing does he - erm - mentions that let me see - how does he - erm - "A thoroughly good work."

Erm - then he goes on to quite customary, to a minor level of academic excellence - which, incidentally, quite high. How does he put that, sir? He comments that "the time someone would know all look off his face. Anything else? Not really, no. Apart from short comment about the first-year work. What's his yes - "Objected to my. Thank you, sir. Of course all this must be in context. Remember your degree grade as determined by the examiners' board. Would it be possible to ask about those matters? Out of the question. Why's that? Quite simply, Flintoff, such indecorous behaviour that you'd be much better knowing nothing at all about them. And, Flintoff, do wipe that stupid grin off your face.

The Times Higher Education Supplement

April 13, 1984 No 597 Price 60p

Polys too big for local councils, say consultants

by Karen Gold

Local education authorities cannot administer polytechnics without risk of conflict of interests, duplication of effort and waste of resources, because polytechnics are too large and complex for education officers and committees to manage them, a confidential report by a firm of management consultants says.

The report, by Coupers & Lybrand Associates, was commissioned by the Royal Borough of Kingston to look at the management and administration of Kingston Polytechnic, concentrating on the cost of the present system. But the firm's report devotes its final section to the strategic relationship between the borough and polytechnic. In all local authorities, it concludes, there is a situation in which one large semi-autonomous organization (the polytechnic) exists and operates within the policy parameters of a larger one (Kingston). It is inevitable that the size and strength of the polytechnic and the size and strength of the borough can lead to duplication of effort, waste of resources and conflict of interest.

Since the establishment of the National Advisory Body, the report says, in real terms "the Royal Borough

of Kingston controls neither the polytechnic's budget nor its academic plan". Therefore the polytechnic needs to move away from the traditional local authority control framework, which has centred around detailed financial and administrative control.

In exchange for that move, polytechnics should be "audited" by their local authority, so that they manage themselves but are regularly answerable for their academic objectives, academic and financial performance and management effectiveness.

For Kingston, Coupers & Lybrand suggest a regular performance review which would include reviewing total expenditure and expenditure per NAB programme area, so that the polytechnic's costs could be compared with national spending - and spending per faculty.

For academic performance it suggests monitoring the numbers of applications, admissions, one as a percentage of the other; average A level score; numbers and percentage of mature, part-time, postgraduate and overseas students; unit costs, library books and computer experience per student. It also suggests "output": the number of successful candidates with first class or upper second degrees, and wastage rate.

The firm's conclusions follow from the results of its investigations into how much borough administration was costing the polytechnic. The consultants took three areas of administration for their £12,000 study: the polytechnic's building maintenance, the cost of administering the polytechnic's payroll, and the overall system used to calculate what the borough charges the polytechnic.

In all three cases the study found that money could be substantially saved by giving the polytechnic more freedom in building maintenance. Coupers & Lybrand thought £100,000 could be saved if measures were taken including giving the polytechnic its own unified maintenance team and allowing it to ask for commercial tenders. In the payroll administration, they found that the true cost of operating it within or outside the council offices was £42,000, not the £85,000 the polytechnic was charged.

But the biggest difference came in the borough's system of calculating management and administration expenses. Before the consultants arrived, the borough revised its charge to the polytechnic from £605,000 down to £468,000. But the firm says the

Recruitment pilot for the Far East

by Ngaiio Crequer

The British Council is proposing to set up a promotion and placement scheme to recruit overseas students for universities and polytechnics.

There will be a pilot scheme for one year, starting in October, in Singapore and Malaysia. If successful it will be extended in the second year to Indonesia, Hongkong and Brazil.

The aim of the scheme will be to promote British higher education in schools and foreign government offices, and assist overseas candidates to receive offers of British places. The intention is also to compete with the United States, which already has a vast network of offices doing similar work.

Each university and polytechnic would be asked to subscribe to the scheme, at a cost of £5,000 per institution per year. The British Council needs agreement from at least 35 to make the scheme viable.

The Committee of Vice-Chancellors and Principals has backed it in principle but says the subscription should vary according to the size of institution. The Committee of Directors of Polytechnics welcomed it this week.

Under the scheme, specially-recruited full-time staff at British Council offices would introduce a range of courses (undergraduate and postgraduate) to prospective students, guiding candidates to a shortlist of up to five courses.

They would help the students fill in university or polytechnic application forms and the British Council would be in touch with the shortlisted institutions, in order of preference. The institutions would decide to admit or refuse.

The British Council has invited Gabbitts-Thring Careers Ltd, a private company which already helps universities and colleges to recruit overseas students, to give their views on the scheme.

Gabbitts-Thring has 39 higher education institutions on its books and is budgeted to deal with 3,000 inquiries from students this year (although only about 340 students will eventually come).

The British Council said this week it was very satisfied with the work the company did and wanted to see how it could cooperate with the scheme.

But Queen Mary College, London has written to the British Council complaining about some aspects of the International Educational Fair, held in Hongkong last month, organized by the company with financial support from the British Council.

They complained that some American institutions of "questionable reputation" had been invited to attend the fair, a Gabbitts-Thring agent had taken commissions from both institutions and students, and that UCCA forms held by the British Council in the Wanchi office were stamped "Gabbitts-Thring".

A spokesman for the company said that the agent in question had nothing to do with them at the fair, and had ceased to work for them when they had found out about his practices.

He denied that any "questionable" institutions had attended the fair, and said they had given some UCCA forms to the council (which the company stamped as standard procedure) and hoped they were still being used.

A British Council spokesman said the use of the stamped forms had been an administrative error by a junior and the mistake had been rectified.

NAB is here to stay, says Sir Keith

by John O'Leary

Sir Keith Joseph, Secretary of State for Education and Science, has decided to retain the National Advisory Body, and is issuing a consultative paper today raising some of the detailed questions about its reappointment.

The three-year remit given to the NAB does not expire until the beginning of next year, but the Department of Education and Science is conscious of the need for an early statement to allow preparations for the next major planning exercise to begin. Local authority associations and senior NAB officials have already been consulted and other submissions are being sought before Parliament's summer recess.

Although the consultative document will include the formal question of whether the NAB should continue in existence, it has been made clear that Sir Keith intends to reconstitute the body with relatively few changes. The basic structure of a committee dominated by the local authorities, supported by a board whose membership is drawn more widely, is certain to be retained.

The main questions to be answered after consultation relate to the legal status of the NAB, the widening of its terms of reference to include responsibility for the voluntary colleges and initial teacher training, the way in which board members are selected and the committee structure which underpins the board.

Civil servants are concerned that the subject committees which were to provide the academic input into the body's work have not functioned as well as expected. They do not expect to alter the relationship between the board and the committee, despite claims from some board members that the present structure does not work.

Sir Keith has already expressed satisfaction with the way in which the NAB has performed its tasks in accepting its advice *in toto* when allocating next year's advanced further education pool. He expects to make his statement on the reappointment well before the end of the year.

The THES

Because of Easter The THES will be on sale a day earlier next week on Thursday instead of Friday.



Ralf Dahrendorf: the honorary Englishman, 10

Oceanography cash decision

Oceanography departments at the University of Southampton and University College of Wales, Bangor are to get extra money from the University Grants Committee.

The UGC physical sciences committee has recommended to the main committee that resources be concentrated in two rather than four departments and set up a small group to visit each department and make recommendations. The decision means that Liverpool and Swansea universities lose out.

Liverpool said it was "very disturbed" at Liverpool had the greatest expertise in marine science in any university in the country. Swansea declined to comment.

Projections pose new threat to teaching

by Patricia Santinelli

Several institutions could lose their teacher training intakes entirely in any new round of cuts if new Department of Education and Science projections prove accurate.

The figures, contained in the interim report of the Advisory Committee for the Supply and Education of Teachers school staffing subcommittee indicate that the average demand for new entrants to teaching between 1985 and 1995 is from 2,700 to 5,100 less than projected by ACSET in 1982.

The figures were arrived at by using the usual simulated competition between new entrants and re-entrants for anticipated vacancies in the Teacher Manpower Model which has in the past proved fairly accurate.

Education on teacher training intakes in 1986 onwards.

If the reductions in allocations implied by the figures were not applied evenly across all institutions and all sectors it could result in up to 10 institutions losing their entire intakes.

In the new projections, the primary sector fares better than the secondary sector in terms of demand for new entrants. Average demand is anticipated to be 1,600 less than ACSET projected - or 5,200 opposed to 6,800 for 1985/90 and 6,100 is opposed to 7,300 in 1990/95.

For new entrants to secondary teaching the figures are far more dramatic, particularly in the second half of the decade under review. In 1985/90 ACSET anticipated an average demand of 4,700, the new projections are for 3,600. In 1990/95 ACSET predicted an average of 10,100; the

new figures are for 6,200. This recovery is 7,100, however, between 1985 and 2,000.

The figures for primary teaching also show that vacancies in the sector are lower than earlier projections. This is due to a lower average rate of wastage and a slow rate of growth in teacher stock, resulting from a lowering of pupil projections.

Within this figure, it is also shown that the demand for primary entrants actually goes up from one third of the total to almost half. This is due to the fact that after some years of relatively low output of new primary teachers, there are likely to be fewer re-entrants.

In the secondary sector, vacancies are not much changed in the first part of the decade but are significantly lower in 1990/95, mainly because the new assumption for the wastage rate is lower.

Letters to the editor

Nigerian universities defended

CNAA approach questioned

Sir, — By coincidence, the letter from Dr M. K. Hughes and 62 other members of the staff of Liverpool Polytechnic (*THE*, April 6) criticizing the methods of the CNAA, appears in the same issue as your feature on this polytechnic which once again records the notorious report of the CNAA on us in 1978.

Please note that, except in the eyes of your writers at the time, we were never "down and almost out" or anywhere near it. Indeed, one or two of us did then, as you may recall, question whether the CNAA approach was the best method of running what was supposed to be higher education.

Also by coincidence, there is in this same issue a brief reference to another notorious CNAA report, that on the Glasgow College of Technology, with unfortunate references to other unpleasantness there.

One asks: why is it that these CNAA reports always seem to attack management, administration, libraries — anything but the "academics"? What authority has a council which is supposed to be concerned with "academic" (never defined) matters to comment on management or other areas in this way?

Is the CNAA so naive that it does not know that this sort of approach will be seized upon by every incipient pseudopolitician desiring to destroy all managerial and administrative authority? How many of the people who actually come round on these quinquennial institutional visits are members of the CNAA and subsequently carry responsibility or accountability for the reports they produce? Certainly, it is improper that, as happened here in 1978, the visiting party is permitted to say that "the worst report since a polytechnic, years ago."

Those of us who left universities, for whatever reasons, and perhaps because we were interested in what might be a new approach from the polytechnics, can reasonably ask whether an "academic" council is the right one to be examining what were, perhaps, or are, supposed to be more vocational institutions. Certainly, the committee-made structures which CNAA-inspired reforms seem to produce are hardly conducive to the "efficiency" which we have been required to show ever since the rising costs partly consequent on their visit were realized.

The universities — and half the establishments with that name hardly existed 20 years — are not required to undergo these unnecessarily expensive investigations. The polytechnics, without exception founded upon colleges which have a much longer history than the Robbins-era universities, can reasonably ask that they are liberated from a system which is bureaucratic, erratic and expensive. If the original intention of polytechnic any meaning, the time has come when more rational and economic arrangements involving either full mergers or some proper division of labour between the two forms of institution should be made.

Yours faithfully,
RAYMOND MOSS,
Chief Librarian,
Tesside Polytechnic.

Letters for publication should arrive by Tuesday morning. They should be as short as possible and written on one side of the paper. The editor reserves the right to cut or amend them if necessary.

Computer design

Sir, — Professor Mavor (*THE*, March 23) has written an interesting commentary on design. Computers provide an excellent tool to aid design and in some disciplinary areas and in some types of design (such as process design for continuous process systems) have been largely successful in freeing engineers for their creative rather than calculation tasks.

Nevertheless, not all design can be conveniently described in quantitative terms, nor can it all handle more than components as opposed to systems.

Sir, — The views of two disgruntled educational theoreticians can not be considered a valid indictment of the entire higher educational system of Nigeria (see Leonard Bloom and Howard Woodhouse, "Providing answers without questions" *THE*, March 9). In no country in the advanced industrial west does the higher educational system fully live up to the expectations of the theorists, least of all in industrially decayed Britain or America. Higher education in Nigeria does indeed labour under severe financial constraints: some students graduate as parrots rather than as well rounded universal men and women. However much the same situation is now found in Britain and North America as I know from personal experience.

It would be well to point out that even at the present moment there is as high a degree of freedom of speech in Nigerian universities as is to be found anywhere. This is hardly what one would expect to find in the reputedly authoritarian society depicted by Bloom and Woodhouse. During the seven years that I have been teaching at the University of Ilorin, one of

been extremely impressed with the levels of achievement by administrators, faculty and students alike. Several departments in this university, including my own, are introducing new and innovative programmes; student-teacher relationships are excellent. Seen from the perspective of Ilorin at any rate, Nigeria has every reason to be proud of her universities.

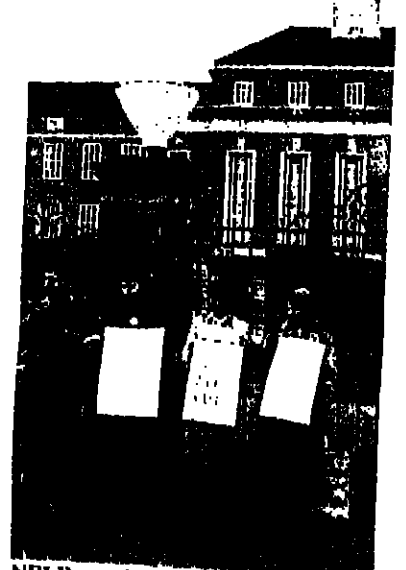
Yours faithfully,
Dr S. J. WATTS,
Senior lecturer in history,
University of Ilorin,
Nigeria.

NELP cuts

Sir, — No doubt many of your readers will by now have concluded that the present financial situation must have brought North East London Polytechnic to its academic knees — after all, in recent weeks there have been several reports giving details of the sizeable financial cuts and staff reductions to be made, followed by the dramatic headline "Staff rush to leave NELP". Then, last week, the secretary of the local National Association of Teachers in Further and Higher Education coordinating committee claimed that there was "demoralization and a lack of faith in the educational purpose" at NELP (*THE*, March 23).

No one would deny that life has been tough and, indeed, no one would doubt that the scale of the cuts would inevitably affect staff morale (in what other institution at the present time is that not the case?) but, in fact, the situation is neither so grim nor so impossible as might have been imagined by an outsider.

Of course, that is precisely the kind of rhetoric that might be expected from a "biased" deputy director (or anyone else in so-called "management") and, as such, it would probably



NELP... the protests continue

be repudiated in certain predictable quarters. However, what better objective judge of the present situation could there be than the Council for National Academic Awards which, after all, is charged with responsibility for ensuring the maintenance of

academic and institutional standards? On the very day you published the local Natlith "version of events", the CNAA was conducting its quinquennial review visit to NELP. As everyone knows, CNAA quinquennial reviews are independent, searching and thorough. Coming when it did, by accident of timing, this particular review was bound to be especially important for NELP (and for the CNAA itself). It is therefore all the more significant and reassuring to note that the CNAA visiting party concluded that it was encouraged by the strategies adopted by the polytechnic and had no special qualms about its ability to maintain the quality of its courses. Furthermore, the visiting party noted that it had been impressed with the "academic" staff, sympathy and humanity with which the reductions had been made and that it was encouraged by the strength of staff morale in the polytechnic.

The message is thus clear enough: NELP is far from being demoralized, despondent, or desperate. It is facing the future positively and with determination and is already being successful.

Yours faithfully,
BILLY TOYNE,
Deputy Director,
North East London Polytechnic

Club members

Sir, — I do not blame the six college principals who are asking to join the Committee of Directors of Polytechnics. They are hard times, and we must all do what we think is best for our own institutions.

But it is depressing to read their assumption that membership of the club depends so much upon their numbers of full-time students doing degree courses; and that growth in the future will be associated with that work and its concentration. Calls from industry and other quarters for the development of part-time, technician, little imagination when it comes to deciding where you want to be.

Are the signals still that a college's best bet in the 1980s is to be as like a university of the 1970s as it can?

Yours faithfully,
KEN SWINHOE,
Principal, Slough College of Higher Education.

NUS election

Sir, — It would seem, by your report on the National Union of Students' presidential election (*THE*, April 6) that you are out of touch with reality. Not only have I won (so far) the ballot, but have been held at general meetings where students have had a chance to hear the candidates, but the way in which the big political groups operate in NUS would ensure a victory for me.

Yours faithfully,
SARAH VEALE,
NUS president, Belfast, Northern Ireland.

Colleges' CDP bid rejected

by Olga Wojtas
Scottish Correspondent

The Committee of Directors of Polytechnics has turned down applications for membership from six of England's biggest higher education colleges.

The school's headmaster, Mr. Robert Holden (78), said the school, which is now a very successful, well-run school, with a record of academic excellence, had been asked to join the CDP. The school's headmaster, Mr. Robert Holden (78), said the school, which is now a very successful, well-run school, with a record of academic excellence, had been asked to join the CDP.

Since the landscape college was founded in 1978, every advantage has been taken of the residential character of the site and the college has been able to offer an urban and rural environment. The college has been able to offer an urban and rural environment.

But it has given a heavy bid that the polytechnics expect to move towards self-validation. In a statement, the committee said: "CDP is in favour of exposing procedures to external peer group evaluation at the institutional level." It continued that once these procedures had been established, quality will be adequately assured by placing reliance on them and on the traditional external examiners system.

The conference spent considerable time arguing over the thorny issue of the Council for National Academic Awards giving advice on quality to the National Advisory Body. The CDP has been irritated by what it sees as the CNAA's unwillingness to consider moves towards different validation procedures.

Members felt the new validation inquiry was an opportunity to submit evidence to a wider public and influence opinion towards self-validation.

The long speech of teaching associations by evening as well as time teaching is bound to reduce the time staff can spend on research and the quality of the work they do. The low status of the research and the low status of the research and the low status of the research.

Such a development might be a suitable project for the Alvey programme on information technology, the board believes. Because of the overlap in users, more than one funding body might be involved.

The board has already set up a working party to consider the types of computing facilities which will be necessary to teach the large numbers of students who will need to gain familiarity with information technology. It sees an urgent need for the extensive provision of equipment and teaching software and wants software to be relevant to a wide range of courses.

The report expresses concern at the escalating costs of software and calls for central information services to be established to monitor development projects and to fund projects in areas where there is particular software need.

Campus unions get set for joint action

by David Jobbins

Changes are increasing of concerted industrial action on the campuses if pay offers to university workers are not raised beyond 4 per cent.

Key negotiations between the vice chancellors and academics, manual workers and technicians last week failed to improve on the 3 per cent assumed in the recurrent grant for salary increases.

But the employers seem prepared to treat the manual workers as a special case, initially offering first 3.7 per cent then 4 per cent to be made formal only if there was an indication of a settlement.

This was rejected by the negotiators

and the manual unions, who are already calling on their members to consider industrial action if the offer is not improved when the two sides meet again on May 2.

The employers, although prepared to make concessions for the manual workers who comprise only 5.3 per cent of the total workforce are conscious of the need to convince ministers that they have succeeded in holding increases to the cash limit in the hope of extracting more cash to put right the erosion of salaries in future years.

White collar staff, who have a July settlement date, and the academics also meet in May. Meanwhile the unions will be meeting jointly to plan their response.

The National Union of Public Employees is calling on its branches to discuss action and delegates from the Transport and General Workers' Union were this week considering their strategy.

TGWU national officer Mr Jack Dromey said there were signs that some university employers were prepared to move towards eradicating low pay among manual workers.

He said: "The universities are supported by the centres of enlightenment. They pride themselves on their liberal reputation yet they preside over a national scandal. Our members pre-

vide an essential service but they are paid poverty wages in return."

Academics rejected 3 per cent at last week's meeting of committee A, the first stage of their negotiating machinery.

Association of University Teachers general secretary Ms Diana Warwick said: "We are not prepared to accept 3 per cent or start haggling over very small increases. We want to see what happens elsewhere."

The Burnham further education committee meets for a second round of negotiations on Monday with an improved offer not ruled out despite disruption in the schools because of the breakdown in school-teachers talks.



Prime Minister Margaret Thatcher talks to students from Leicester University and polytechnic and Loughborough University at the FCS conference.

Right-wing victory spells trouble for NUS

A renewed onslaught on automatic student union membership will face the new leadership of the National Union of Students now the wets' grip on the Tory student organization has been loosened writes David Jobbins.

The new right-wing leadership of the Federation of Conservative Students is committed to a high-profile campaign for voluntary membership of unions in the colleges and individual membership of NUS. And it aims to build support among backbench Conservative MPs in an attempt to force the Government's hand.

Their followers were visibly upset at the failure of Sir Keith Joseph to act on the membership issue when he spoke at the FCS conference at Loughborough University last week. And anger at tacit support for the strategy of working within NUS was a large factor contributing to the defeat of the wet leadership in the elections.

Ironically, the defeat came just as the conference heard a Prime Ministerial pat on the back for the current leadership under chairman Mr Paul Goodman.

Mr Thatcher's visit to deliver a

spiky-haired Dundee delegation came close to the paramilitary dress of the past, never less, provoking a suggestion that they might consider the intervention of the 1936 Public Order Act.

The wets began with a setback — the exclusion of the Salford University delegation because of doubts over their representation leading in turn to the elimination of one of their hopefuls for the national committee. But they staved off a move to write a commitment to destroy NUS into the constitution and another effectively to sack Mr Edward Heath as life patron because of what was described by vice chairman Mr D. J. Saunders as "a quite disgraceful record of disloyalty to the Government."

Mr Glendonien was quickly embroiled in controversy when he said that he felt that possession of heroin should not be an offence. "I would not condone or encourage the use of heroin," he told *THE*. "But there seems a certain contradiction in Conservatives saying on the one hand that they believe in individual freedom and on the other adopting an authoritarian approach."

"Whether you like it or not, the public recognizes NUS... if you want the public to treat the student body properly then it has to be properly represented. You have to see that your representatives are real."

The conference was remarkably free of the incidents for which FCS has become notorious in recent years. Only the black sleeveless tee-shirts of

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The conference was remarkably free of the incidents for which FCS has become notorious in recent years. Only the black sleeveless tee-shirts of

Liverpool recruiting ban lifted

Liverpool Polytechnic received two early Easter presents from the Council for National Academic Awards this week: the council agreed it could now recruit students for 1984 unconditionally, and approved an application for one of the first prestigious MEng degrees, in mechanical and manufacturing engineering.

The council's committee for institutions agreed a special working party recommendation that the overall ban on unconditional recruitment should be lifted at the polytechnic. But the CNAA review of all courses at the polytechnic will continue.

A CNAA official said that the council "hoped that the relationship between the council and the polytechnic will normalize as soon as possible". The polytechnic's academic board has sent details of all courses to CNAA, which has already forbidden two courses — physics and fine art — to recruit this year. But a CNAA visiting party at the polytechnic last week approved the new MEng.

As part of the normalization, following undertakings from Liverpool's rector designate Mr John McKenzie, the council is unlikely to ban recruitment on any other courses this year, although council boards and committees might issue warnings for 1985.

The crisis over broadcasting costs has given new urgency to the OU's need to reach a decision as to whether audio and video cassettes can replace radio and television as the main means of instruction. It is known that more than half the students have access to a video recorder.

Scots are divided over pay

Scotland's lecturing unions are already in disagreement before management have made an official pay offer.

At a meeting of the Scottish Joint Negotiating Committee for further education, management made an informal offer of 4.5 per cent to staff in local authority further education colleges, and 3 per cent to staff in the nationally run central institutions and colleges of education.

The Educational Institute of Scotland, whose members are in local authority colleges, was keen to hold a ballot on the offer, while proposing support for action the other colleges might take in pursuit of an improved offer.

But its rival union, the Scottish Further Education Association, joined the Association of Lecturers in Colleges of Education in Scotland and the Association of Lecturers in Scottish Central Institutions in rejecting any divisive offer.

An SFEA member said it was understood the 4.5 per cent was not going to be tabled officially unless management knew in advance that the differential offers would be accepted.

The joint negotiation committee will meet again on May 4, with ALCI and ALCES using the intervening weeks to press for an improved offer. Meanwhile, the EIS is taking the unusual step of balloting its members on a 4.5 per cent offer before it has officially been made.

A single negotiating body for lecturers was set up only in 1982, with local authority management and central college governors clashing last year as well. Central management said it could offer only 3½ per cent in line with government guidelines, while the local authorities informally said they were willing to match the 4.9 per cent offered to school teachers.

Broadcasts by OU face cuts

Open University broadcasting will be cut next year. In the first stage of a sharp reduction over the next three years in the role of radio and television as the OU's main vehicle of instruction.

The BBC has already started reducing the amount of material under preparation for the OU as part of the Government's cut in its grant.

Although the university is only losing £700,000 pounds off its £10m-a-year broadcasting budget, the cut will have a disproportionate effect on programmes because a large part of the budget goes on overheads which cannot be quickly trimmed.

Senate members have pointed out that if the BBC is made to take a greater share in the overall cut in OU spending — roughly 10 per cent over the next three years — without any major change in the way money is spent, there will be hardly any money left to pay for programmes.

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Debate

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Analysing Thatcher's experiment

by Peter Hennessy

The skill of the television critic is to add a subtle and preferably hidden dimension to a programme which his reader has also experienced. Performing a similar function for government is immensely difficult for political journalists who can be as much a prisoner of the trivial and the transient as any politician.

Last week the best of the country's political scientists gathered at Southampton University for the annual conference of the Political Studies Association to consider, among other things, the meaning of the Thatcher experiment in government. Did they bring off the trick of the television critic by discerning truths lost on 55 million fellow countrymen living in Mrs Thatcher's laboratory?

Mr David Butler of Nuffield College, Oxford, who has had a stab at the question in preparing his forthcoming study of the 1983 general election, confessed: "Many of us do not know what the hell the Thatcher experiment is. But there has certainly been a sea-change. It is a mixture of privatization, sound money and an escalating future if you don't do things about the welfare state."

"If it is a big change, its real nature and implications are a great deal harder to sort out than the big changes after Labour's victory in 1945. By 1948/49 we knew about them. Now we are still groping - how much unemployment is due to the world recession and how much due to the actions of the Government? Nowadays we are all much more sceptical of what governments can do."

Professor Jack Lively of Warwick University said of the conference: "Everyday seems to be saying there isn't an 'ism'. There is just a Thatcher style." Mr Philip Norton of Hull University reckoned that was significant in itself.

Professor Maurice Goldsmith of Exeter University, this year's chairman of the association, noticed that, thanks to the Thatcher rhetoric, several political scientists were becoming "interested in justifications for the welfare state, looking beyond traditional economics to justify a non-market operation".

One Southampton participant, at least, was not tentative in his conclusions. Mr Bob Leach of Leeds Polytechnic in his paper *The New Right: Myth or Reality?* uncovered a conspiracy between Conservative and Labour politicians to portray Mrs Thatcher as far more radical than she is for their own propaganda purposes.

"Universities are the most over-funded sector I've ever seen. Professors on £20,000 a year doing a 25-hour week, 30-week year, each with a secretary with so little to do that they spend more time painting their nails than typing letters."

A good friend of mine has recently returned to university to do a one year postgraduate course; after 10 years at the sharp - and impoverished - end of the education service, dealing with the nation's rejects, the 16-year-old non-achievers. When he pronounced on the university sector in exactly the words I quote at the head of this article, I could scarcely believe my ears. They might have been expressed from a *Daily Telegraph* reader whose nearest contact with university was Sandhurst, and who had lived off fantasies of drugs, demos and decadence that were the alleged hallmarks of new universities in the late 1960s. But sentiments are wholly unexpected from a God-fearing, *Guardian* reading child of Beveridge and Robbins, whose politics are firmly on the left, whose judgment I respect, and whose sanity is not in question.

"But it is not true," readers, especially of *The Times*, will cry. I know quite a number of academics

Two-centre biotechnology boost agreed

by Karen Gold

Two biotechnology centres with initial funding of a total of £2m are to be set up among groups of polytechnics and colleges, the National Advisory Body has agreed.

The NAB board and committee agreed that no single public sector institution could meet all the NAB's criteria for a centre of excellence in biotechnology. Instead, groups of institutions would be invited to bid for two packages of £1m each; £500,000 initial capital funding and another £500,000 annual running costs.

The bids will go to a special panel of biotechnology experts set up by the NAB. This group will "establish the criteria by which excellence might be judged, visit the institutions and report back to the board with their recommendations," says the NAB.

The high cost of biotechnology means that development should not only be in consortia of institutions, but

that those institutions should be ones in which a strong commitment to the subject already exists, the paper says. It quotes a Department of Education and Science assessment of public sector biotechnology centres should include have already been agreed by the NAB. They are: a centre for teaching in engineering, preferably including chemical, biochemical and electronic engineering and strong in microbial physiology, biochemistry, and genetics; the centre should be able to offer courses at all levels from technician to postgraduate, and in all modes; it should have a strong research base in collaboration with industry, and a history of staff development.

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Jobs unit threatened by success

by Ngaio Crequer

Employers are receiving so many applications for every graduate job vacancy that some are not using central vacancy lists.

For ten years the Manchester-based Central Services Unit, has notified job vacancies to all students in all institutions. But according to the annual report of the University of Manchester appointments board, the system is threatened by its own success.

"There are instances where a single advertisement in one of these sources has produced many hundreds of replies. The resistance of employers to the use of CSU vacancy lists is growing, and this is a state of affairs which can be serious, unless means can be found to ease the burden on the employer without too substantially raising the cost."

One idea being put forward is that the CSU should establish a list of "consultants" skilled in graduate recruitment, who could be recommended to employers.

They would help employers use CSU systems more effectively, draft better advertisements with clearer job descriptions, and perhaps produce short-lists of applicants.

This would be done by a paper sort or preliminary interviewing.

The annual report says there are several reasons the CSU should retain its wide coverage of employers. Its function as a central source of information would suffer if it were bypassed by increasing parts of the graduate recruitment market; fees paid by employers enable it to be self-supporting; and efforts to develop a comprehensive register of employers who are regular recruiters of graduates would founder if a substantial proportion of such employers declined to take part.



Lord Kenyon, the former president of the University of North Wales, Bangor, poses beside a portrait of himself painted by Sir Lawrence Gowing. Lord Kenyon chairs the committee which is organizing the college's centenary celebrations, to begin in October.

Computer school to open

A new £1m computer and electronics school aimed at helping industry and training unemployed adults in specific skills is to open in June with Government, local authority and industrial backing.

The London Computer and Electronics School is to be based in Hammer-smith, headquarters of the IBC group which originated the initiative and is providing £500,000. The remainder is to come from the Department of Trade and Industry, the Manpower Services Commission and the borough of Ham-mersmith and Fulham.

BOC, which has launched similar initiatives in America, decided to experiment here after a survey revealed a shortage of suitably trained people in the computer and electronics field in London.

Mr Marty Hanfling, president of BOC's educational services division,

and Coventry polytechnics might need to establish companies to ensure the institutions, and other technicians, could offer equivalent courses to postgraduate students. The time as there are few full-time university courses.

The public sector's contribution would be a part-time provision, between development, education, and industry. Demand for technologists was not likely to follow the subject's decline.

Nine-day visit to Saudi Arabia

Dr David Harrison and G. L. Holliday, the director of the British Council in Saudi Arabia, at the invitation of the deputy minister of education, will discuss academic links, study opportunities and possibilities of joint projects.

Enfield sale

Middlesex Polytechnic's long list of authorities has decided that none of the polytechnics should close this year.

Enfield and Haringey have agreed to merge, and a new role for the unit has been proposed by Mr Merton Atkins, Lancaster University registrar.

In a paper entitled *New Ideas to Save a Rotting System* he argued that reduced public funding had revealed a rotting system in the universities, but the rot had long been there.

Student priest

Glasgow University will offer a unique experimental course when it admits up to 100 Catholic students for the first time. The students will study for a three-year theology degree, followed by a year of theological training.

Bowing out

Sir Clifford Butler is to leave his post as vice-chancellor of Loughborough University in December 1984. He has been vice-chancellor since 1975, after leaving the Nuffield Institute.

A sprawling jumbo training workshop

by Peter Scott

The Conference of University Administrators' annual meeting in Liverpool last week, its eleventh, was the biggest yet - but was it the best? More than 600 administrators attended the three-day meeting. They ranged from registrars to administrative assistants and included all the people in between. If Big was Beautiful CUA 1984 would have been the best yet. There is no other higher education conference, on either side of the binary line, that can now match it for sheer size.

The question universities must answer is should they go on being better educated than polytechnics - and if so, why - Sir Peter Swinnerton-Dyer said last week.

Sir Peter, chairman of the University Grants Committee, who was addressing the Conference of University Administrators at Liverpool University, said if the universities did not produce a good answer, the answer from the other side of the binary line would be accepted.

The only sensible answer was that universities did two things of equal importance, teaching and research, while the polytechnics' primary function was teaching.

He said it was cheaper for a single institution to do both teaching and research. But another consequence could be drawn: that the size of the

Nor does the CUA have to struggle to be recognized. The main speaker was the chairman of the University Grants Committee, Sir Peter Swinnerton-Dyer. He may not have said much new - after all, he is in the middle of a schedule of speeches almost as punishing as Messrs Mondale and Hart! But it was a careful and considered speech with rather more than its quota of nods and winks.

The magnitude and status of the CUA was celebrated symbolically just before Sir Peter spoke. He was solemnly presented with the CUA's

answer to his 28 questions by its chairman, Mr M. A. Hughes of Loughborough. The formal handshake. The fixed smile. The flash of the camera. The moment was recorded for the CUA's posterity.

But behind this confident facade things are not going as well as they were for the CUA. Some would say - many at Liverpool did say - that the annual meeting had grown too big. As a result it has come to encounter some of the logistical problems that did for the dinosaurs.

Yet the simple answer, to reduce the

scale of the meeting to give it renewed focus, is not available. The CUA not only is the victim of its own success (and handwagons in reverse never seem a good idea) but also has to remain committed to the ideal of the generic administrator. So if the CUA relieves the initiative will pass back to the meetings of specialist administrators which it is CUA's mission to supersede.

A second difficulty is that CUA meetings seem to be subtly shifting their character. They seem to be retreating from sharp policy cutting edge and becoming instead a jumbo training workshop. This shift was very apparent at Liverpool last week. Staff development, statistics, student recruitment, these are the subjects that have become the bread and butter of CUA meetings.

Two small pieces of evidence illustrate this interesting shift. The first is a piece of pure anecdote. At the end of Sir Peter's speech in Liverpool there were only two questions - one from a registrar no doubt as a back stop. This may reflect the fact that many of the administrators in the large audience felt that higher policy was not for them.

The second is firmer evidence. A few years ago the CUA was in the forefront of forecasting future student numbers. The work done by its forecasting group in the late 1970s was a model. Today the running is being made by others - the Royal Society, the CVCP, and the AUT.

The bigness and the lack of policy bite may be different aspects of the same phenomenon, the success of the CUA as a focus for the solidarity of university administrators. The natural reluctance of even senior administrators to adopt too high a profile on policy issues has been compounded by the acquisition of large numbers of more junior or specialist administrators as CUA members who simply do not feel much interest in these issues.

It is difficult for an organization like the CUA to get the balance right. But there were clear warnings at Liverpool that something needs to be done to restore the balance. A sprawling meeting with the appearance of a jumbo training workshop may not be an effective model for the CUA's success in the 1980s.

Sir Peter's first question

by Ngaio Crequer

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The only sensible answer was that universities did two things of equal importance, teaching and research, while the polytechnics' primary function was teaching.

He said it was cheaper for a single institution to do both teaching and research. But another consequence could be drawn: that the size of the

university sector ought to be controlled by the amount of research needed.

A reduction in demand by 18-year-olds would not reduce the national need for research, but what that national need was, was highly debatable.

Sir Peter said it was in the interests of universities to increase non-Government funds.

"If anything we are likely to go over to the Rothschild customer-contractor relationship in which the Treasury buys services from the universities, so many students, so much research."

In that case the philosophy of a deficiency grant (grant being made up) had no place and private funds were a bonus. He promised they would not be taken into account by the UGC when it decided the grants.

Sir Peter said that some 500 replies, about 10,000 pages, had been submitted to his inquiry into the future of

higher education. He was "wholly unprepared" about not asking fundamental questions about higher education.

He hoped the UGC report to the Secretary of State in July would be the first stage of the debate. There would be a Green Paper before the end of the year which would be the Government's response and future plans.

Once the strategy exercise was over Sir Peter said there would be enormous changes in the way the UGC worked.

There had to be greater openness about the way annual grants were allocated. "We do not actually think up a global figure at random, but in a conscientious, painstaking and in principle logical way."

This would not mean a massive system of earmarking. It would still be up to universities to "scrap the sums" and do as they thought first, he said.

One registrar's plan to save a rotting system

Reform would start in the schools with a three-year sixth-form, to ensure students were prepared.

University places would be strictly limited. They would be funded by departments of state, industries and private corporations in response to society's needs. Although it was not clear or unquestionable that education should be free when not compulsory, financial support for students

should depend on society's needs.

The present system of job-protection for teachers should disappear and teaching for degrees should no longer be the chief activity of universities. The teacher should become exemplar, inspirer and counsellor. There would be more cooperation between teachers from other institutions and scholars from industry and research establishments.

Need for jobs as well as training, says economist

by Patricia Santinelli

Government decisions to give priority to universal training rather than jobs are attacked this week by a Cambridge economist, who says this will only result in waste and frustration.

Writing on "The New Training Initiative after Two Years" in the latest issue of the *Lloyds Bank Review*, Dr Paul Ryan, a lecturer in economics and politics and fellow of King's College, says that a strong training policy can only make sense in the context of a successful policy on jobs.

"While more and better training may indeed bring economic benefits in the longer term, without enough skill-using jobs much of it will go to waste in the interim. Similarly, more and better training is of little value to individuals, young or old, without jobs to use it in."

Dr Ryan also expresses strong doubts about the Government's commitment to turn the Youth Training Scheme into a universal foundation training year.

He points out that the White Paper *Training for Jobs* in its reference to plans for YTS mentions only "a continuing need for coordinated provision to help young people progress from education to work as smoothly as possible".

By treating YTS as just a glorified careers scheme and by omitting mention of the objectives proclaimed in 1981, the Government suggests a lack of intention to take the scheme down the path of universal initial training. Clarification of policy intentions in this respect is a matter of great importance," Dr Ryan says.

Dr Ryan also criticizes the low priority given by the Government to monitoring YTS, thereby leaving the provision of high quality training to the goodwill of employers.

"The resulting proliferation of low quality schemes will endanger not only YTS but the wider course of improved vocational preparation. If many young workers find they are learning little on YTS, the doubts about its value will greatly intensify, while the existence of a low quality segment will mean that disadvantaged groups will be prodded towards these places," Dr Ryan says.

He points out that another fundamental defect of YTS is that it does nothing to solve the longstanding problem of training for key skills. The White Paper had made it clear that the subsequent years of apprenticeship after the scheme were the responsibility of employers, without indicating how they were to shoulder the burden.

Lloyds Bank Review, April 1984. No 152 available from 71 Lombard Street, London EC3.



Actress Julie Walters has returned to Manchester Polytechnic, where she studied drama, to launch a publicity campaign to promote the wide range of facilities available to the public.

Government relents over ILEA replacement

The Government has backed down on its plan to replace the Inner London Education Authority with a nominated board when the metropolitan county councils are abolished, and agreed instead to create the country's only directly elected education authority.

Sir Keith Joseph, secretary of state for education and science, said in a statement in the House of Commons that consultations about the original proposals had resulted in arguments

ly elected authority". All parties, including the Conservatives on ILEA had opposed the proposal in last autumn's White Paper *Streamlining the Cities* for Inner London boroughs to nominate councillors for membership of a joint education board.

"The future, scale and importance of the education service in Inner London, taken together, justify a directly elected authority in this special case," Sir Keith said. "We intend to provide

for this in the main legislation abolishing the Greater London Council and the metropolitan county councils, to be introduced in the next session. It remains our intention that a new 'education' authority for Inner London should be made subject to statutory review in the light of experience."

Mrs Frances Morrell, ILEA leader, said the Government's decision was a victory for parents, teachers, teaching - and non-teaching - staff.

WEA asks for more, not less money

by Maggie Richards

In a bid to reverse a Government cutback on funding, the Workers' Educational Association is to mobilize its 170,000 members in a new campaign.

Last year the Government announced an 8.3 per cent reduction in grant aid to the WEA. The association claims this was the third and most critical cut it had been asked to bear. It had previously suffered from economies in the local authority sector and clawback of a larger part of fees by university extramural departments, themselves feeling the impact of a 14 per cent spending cut.

General secretary Mr Robert Loeche said the campaign would aim to convince the Government of the need not only for level funding, but for additional resources to finance work in priority areas.

"The Department of Education and Science is telling us to encourage innovative work with priority groups, and to encourage cooperation with other providers. With the cuts that have been made it is impossible to do this. We are issuing a document to all its members, outlining the funding position and asking them to take up the issue with their MPs. At national level the association intends to ask for a meeting with the higher education minister, Mr Peter Brooke."

The campaign is also being supported by the association's vice-presidents, including the Labour Party leader Mr Neil Kinnock.



Picking up the pieces

The Government has persuaded the Committee of Vice Chancellors and Principals to conduct a series of efficiency studies in universities. What a time to choose! The universities are sitting on a 3 per cent pay limit time-bomb; and after three years of cuts the CVCP should be rebuilding the ruins already created, not seeing how best to sweep up the debris.

No doubt the Association of University Teachers and other unions will cooperate with the testing of this prestigious vacuum cleaner. The detailed terms of reference of the studies are still unclear as is the extent of the involvement of the Government's Efficiency Unit, but one can only hope the level of consultation will be improved at local level.

Of course it is important for autonomous public institutions to be seen to be sensibly managing their budgets. If there are good practices in financial procedures and information systems it makes sense for knowledge of them to be widely disseminated. Accountability and efficiency have been well-worn coins in the universities' purse. As aids to planning, however, they have been sorely tested over the last few years.

Since the Government came to office it has not ceased to savage universities' budgets openly - and covertly, as the recent debacle of ministers and eminent vice chancellors quarrelling publicly over the correct level of the cuts has demonstrated. For three years universities have been reeling. Too much time has been spent on crisis-management. The short time-frame imposed by the Government, with constant changes by the University Grants Committee in allocations of grant, has made nonsense of attempts at rational planning. Administrators and academic staff have spent a great deal of time in committees trying to make sense of the chaos.

Desperate economies have had to be made in libraries, support staff, equipment, laboratories, as well as in academic disciplines. There has been little time, and less energy, to spend on "switch-off" campaigns. On top of all that the UGC has been asked by Government to plan for a 15 per cent cut in resources over the next 10 to 12 years.

So, having created the circumstances in which no manager in his right mind would expect spit and polish results - the Government has called in Sir Alex Jarrett and his prestigious committee.

The unstated aim of the studies is to save yet more money. The Secretary of State has given the "assurance" that any savings will not be clawed back during the currency of the Public Expenditure White Paper.

The White Paper also says that "for universities the cash available will require a measure of increased economy if standards are to be maintained". So beneath the jargon of cost-terms, real-terms, volume-spending, and resource allocation, the message is clear: this study had been planned in December and the Government, in anticipation of its results, has already taken its cut. Woe betide any university that doesn't meet its hidden target. Our demand that universities make a fair pay settlement in line with the rest of the public sector will be a fitting backdrop for studies into further savings. As the lady said, "hold on to your seatbelts, we are in for a bumpy ride".

Diana Warwick

The author is general secretary of the Association of University Teachers.

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overseas news

Rethink on student loans

from John Walshe

DUBLIN

The Irish government has had second thoughts about introducing a student loan scheme next September. It now seems that even if such a scheme came into operation the earliest would be the autumn of next year and on a more modest scale than originally proposed. Finance ministry officials had hoped that a scheme could be brought into operation at an early date. The intention was that it would be accompanied by a reduction in state expenditure on higher education. This could have meant staggering fee rises for all higher education students. Education minister, Mrs Gemma Hussey, said in her recent *Programme for Action in Education 1984/1987*, that the question of a loan scheme was being considered by the Government to be operated in tandem with the existing higher education grants scheme. The programme said it had been suggested that fees should be raised to meet a greater share of the real cost of

student education, and to help students a loan scheme might be introduced. It added that the question of a student loan scheme was an extremely complex one, involving basic decisions of principle and practicality. Recent newspaper speculation that the proposal has been put on the long finger has been confirmed by senior officials of the education ministry who were known to be lukewarm towards the idea in the first place. The time scale for introducing such a scheme before the start of the coming academic year is probably too short anyway. But apart from this factor, there are indications that the more detailed investigation of such a scheme has shown up very significant problems which would have to be overcome. A number of arguments have been advanced to counter the advantages of loans. One is that the start-up cost is too great. Even if the commercial banks agreed to operate such a scheme, they would insist on at least some state guarantees. And the Ministry of Finance's hope that it could be done without any state

subsidy does not seem to be on. The main advantage of a loan scheme from the ministry's view would be in savings to the Exchequer, but there are fears that the drastic fee rises this would entail would mean protests, the law of diminishing returns in some faculties and even less representation from lower income groups. The "pull-through" effect of jobs at the end of the course of studies is no longer certain due to increased graduate unemployment, but one of the main arguments advanced is that the level of direct and indirect taxation is already so high in Ireland that students would be unwilling to take on an extra loan commitment. The loan proposal is still expected to be discussed in the forthcoming paper on the options facing third level education which is, at present, being prepared for Mrs Hussey. But some interested observers suggest that politically it would be difficult for the Coalition Government to introduce much higher fees and loans towards the end of next year, especially if there were talk of a general election on the horizon.

Australian study shows high drop-out rate

from Geoff Maslen

MELBOURNE

Drop-out rates of students undertaking courses at Australian higher education institutions are startlingly high, according to a study conducted at the Swinburne Institute of Technology, in Melbourne. The study found that, on average, more than two out of five full-time and four out of five part-time students are likely to drop out of their courses before graduating, with relatively few reentering at a later date. Using a statistical procedure known as "Markov chain modelling", Dr Miles Nicholls of Swinburne's faculty of business looked at student completion rates within his faculty. He found that only 22 per cent of full-time students and 10 per cent of part-timers finished their courses in the minimum time. Dr Nicholls said that although his analysis was based on faculty of business students at Swinburne, the results were probably typical of other faculties within the institute and could also be applied to other colleges of advanced education around Australia. Although completion rates were higher in universities, because of different measurement criteria and slightly less emphasis on part-time students, student attrition was still quite large. Comparison of results of other studies showed that, on average, only one in four students completed their courses in the minimum time. This revealed a "fair degree of correspondence" with Markov model analysis, Dr Nicholls said.

Hebrew University sacks 180

The Hebrew University of Jerusalem has sent dismissal notices to 60 young, unenrolled instructors and lecturers and to 80 technical and administrative staff as part of the 6 per cent budget cut imposed on the country's institutions of higher education by the treasury. According to university president and rector, Professor Dan Patinkin, speaking to the annual meeting of HU's board of governors, the university has been forced to scrap hundreds of courses next year, cut labora-

tory and library hours and further reduce its purchase of books and periodicals. Patkin said that these cuts "have impaired the quality and standards of the university". The university, through its associations of "Friends of the Hebrew University" abroad, primarily in the US and Western Europe, hopes to raise an extra \$2m to offset part of the Treasury cut.

Attitude to French is 'too laissez faire' says languages commissioner

from Mark Gerson

TORONTO

Canadian universities have again come under fire for neglecting their responsibilities in second language education. In his 1983 annual report to parliament, the commissioner of official languages complained that university administrators had spent the past year struggling "with the apparently revolutionary notion that second language training might play an honorable part in their affairs." Throughout his term as language

commissioner, Max Yalden has accused universities of "academic myopia" where the country's second language needs are concerned. Last year he reported finding the country's post-secondary institutions "very salty about accepting any responsibility for the future quality of linguistic life in Canada." Despite "slight grounds for greater optimism in 1983," said Yalden in his latest report, "there are altogether too many indications that the blinkers remain on many academic eyes." He said he was disheartened by



Chairman Mao: Inflated 'Hundred Flowers' campaign



Deng Xiaoping: was for himself

Intellectuals back in favor with Chinese communists

from Jane Marshall

PI KING

A decision to recruit more intellectual students into the Chinese Communist Party (CCP) reflects the official rehabilitation of intellectuals in China. A recent document from the party's central committee called on party units in all institutions of higher education to make recruitment of students a regular task, so as to raise the intellectual quality of the membership and because talent was needed for future leadership. The call to bring more intellectuals into the CCP is linked to a "party consolidation" campaign announced last year, whose aim is to root out corruption and extreme leftist influence from the party. The leftists are those conservatives who uphold the ideology of the late chairman Mao Tse-tung. It was under his leadership that intellectuals suffered systematic persecution, especially from the "Hundred Flowers" campaign against "bourgeois rights" in 1957, and during the 10-year cultural revolution which ended in 1976, the year Mao died. Mao's successors, whose guiding light, the pragmatic Deng Xiaoping, was himself purged twice under the leftist chairman, reversed the policy against intellectuals, who are vital for China's ambitions of modernization. "Intellectuals are no longer the 'stinking ninth category' and have officially become an integral part of China's working class." But there is still resentment and distrust of intellectuals from the Maoists in the CCP, who are particularly strong in the army and party's middle ranks. At Hunan University in China, for example, an obstructed and demoralized party official threatened a professor with dismissal and remuneration for which the professor had no claim. The professor, who had been a member of the party since 1957, was frustrated in their work. Cases elsewhere show a recognition of their value, but a material benefits, and not at work. The Maoist forces are ideologically opposed to progressive policies, which raise the status of intellectuals and are introducing a new job in one of Spain's largest companies, then the best way is to take a further degree in industrial engineering, or, failing that, in economics, business studies or chemistry. You should also be male, aged between 30 and 45, a fluent English speaker, with a certain ambition but not aggressive, entirely lacking in political convictions, dynamic, active, and entrepreneurial.

This is the result of a survey carried out for the Secretary of State for Universities and Research, who has been looking at ways to bring the universities and the business world closer together. The ultimate aim is to have a better control over the supply and demand of qualified graduates. By improving and changing the existing university education to bring it into line with the demands of business and industry, it is hoped to reduce the numbers of graduate unemployment. The survey was also intended to discover where the greatest demand was likely to be for qualified staff and to assist the introduction of new courses to fulfill this demand. The researchers surveyed 154 of Spain's 1,500 largest companies - public and private, national and multinational. These companies employed 15 per cent of the graduates working for the 1,500. Twelve subjects accounted for 77 per cent of the graduate qualifications, of which economics, business studies and law were by far the most common while politics and sociology came very near the bottom. They also found that if a graduate and a non-graduate were competing for the same job where a degree was not required, well over half the employers chose the graduate. The employers in these cases said they preferred to take on industrial engineers, and the researchers point to their relatively high social status as a reason for this. In choosing staff, it is clear that a graduate's degree counts no more than his personal qualities. This may well be because the employers identified so many faults in the education system, that on average eight months' in-house training is given to new staff with specialist degrees. The criticisms of the universities were that the basic training was deficient, too theoretical and too generalized, not up-to-date enough, lacking in preparation for undertaking research, omitting all references to business or industry, lacking in complementary studies such as languages, management, and statistics and generally deficient in subjects which were essential for the modernization of business, such as new management techniques, marketing, and new technology such as lasers, robotics, biogenetics. The employers showed themselves keen to work more closely with the universities to sponsor students, to place students for short work experience, and to give their staff time off to perfect their skills as university teachers. The survey also revealed that employers with specialist qualifications in road construction, or telecommunications are going to be in demand. The Ministry of Education is planning to

Jaruselski calls for tougher

New Polish legislation on higher degrees and academic titles should be "more rigorous", Prime Minister Wojciech Jaruzelski told a recent meeting of the Central Qualification Commission for Scientific Titles. Two many academic establishments, he said, had the right to confer degrees, leading to "excessive" appointments created to absorb degree holders into the academic structure. The general seems to favour a system analogous to that in the Soviet Union, where universities can confer only the first degree and all higher degrees have to be approved by a special "Higher Attestation Committee" (which takes into account not only academic merit but also political soundness). Polish university students, on the other hand, show too little interest in their future degree. Last year's daily paper, *Praca*, noted that 10 per cent of graduates achieved only a pass degree, due to having to repeat courses. The paper suggests a number of reasons, the shortage of (increasingly) young people, only junior instructors, and a high proportion of part-time students, neglect over many years of university education, and a high motivation among students to get a degree as a condition for employment. The paper also noted that the market for graduates is not very solid, and that many graduates are not employed.

He also worried about the 'very grave gap' that still exists in post-secondary opportunities French 'outside Quebec'

Referring to last autumn's national university week's campaign slogan "We have the Future in Mind", Yalden said, "We inquire fairly whether even the least semblance of social responsibility does not require universities to remember the importance of nurturing the bilingual capacity of those young Canadian minds." He also worried about the "very grave gap" that still exists in post-secondary opportunities French "outside Quebec." "Referring to last autumn's national university week's campaign slogan "We have the Future in Mind", Yalden said, "We inquire fairly whether even the least semblance of social responsibility does not require universities to remember the importance of nurturing the bilingual capacity of those young Canadian minds."

US foreign language ability 'woeful'

from E. Patrick McQuaid

The administration and congress seem to agree that Americans are "woefully inadequate" in their knowledge of foreign languages and cultures. Differences are likely to emerge, though, over how much money should be invested for redress and whose pocket will be picked to pay for it. Enrolment in secondary school foreign language courses declined steadily from 36 per cent in 1915 to 15 per cent in 1980, according to an advisory board reporting to the education minister, Mr Terrell Bell. The wake of last year's state of critical audits on the nation's schools has colleges, state governments, and local school districts beefing up foreign language requirements, but in a largely uncoordinated way. The National Advisory Board on

International Education Programmes, a 23-member panel commissioned last September, suggests the creation of a special federal fund to direct this pursuit. The fund would tap the interest payments on overseas foreign aid and collect a percentage from the overseas sale of American services and properties, via government and military transactions. The panel further recommends that college students should have to pass oral and written examinations for foreign language proficiency as a graduation requirement. In the elementary and secondary schools, pupils should begin their studies much earlier and those demonstrating great potential should be singled out for accelerated study and overseas travel. Secretary Bell has not made an official response yet. In the private sector, the Rand Corporation released

a study earlier this year noting that foreign language specialists are not employed adequately by business and industry. Congressman Paul Simon, who chairs the house post-secondary education subcommittee, says the needs of business are not met because there is no database to match the linguistic skills of the job applicants with such particular concerns. Mr Simon introduced and guided through the house legislation to authorize the appropriation of \$30m each year for three years in federal funds to schools and colleges. The schools could apply for funds to launch model language programmes while money for colleges and universities would be based on enrolment numbers. More funds would be earmarked for upper-level study and for instruction in languages less commonly taught. The Illinois Democrat has taken his

crusade beyond congressional chambers and produced a book, *The Time-gate-Tied American*, to illustrate the economic, political and cultural profit of his proposals. In press interviews, Mr Simon has stressed that foreign language study is the key to cosmopolitan awareness but says there has been insufficient motivation in the States. The Simon legislation was passed in late February and he is cautiously optimistic that a similar version in the Senate will make headway. Mr Simon is seeking election to the Senate in his native Illinois and in a comment having as much to do with events next November as the present state of affairs, he observes that foreign language study will help build an informed electorate, guarded against chauvinism. "If we are too shortsighted," he notes, "we are going to select leaders who are shortsighted."



Students clear the ground outside the new campus to mark Land Day.

How to get on in Spain...

by Sarah Jane Evans

If you want to be sure of getting a good job in one of Spain's largest companies, then the best way is to take a further degree in industrial engineering, or, failing that, in economics, business studies or chemistry. You should also be male, aged between 30 and 45, a fluent English speaker, with a certain ambition but not aggressive, entirely lacking in political convictions, dynamic, active, and entrepreneurial. This is the result of a survey carried out for the Secretary of State for Universities and Research, who has been looking at ways to bring the universities and the business world closer together. The ultimate aim is to have a better control over the supply and demand of qualified graduates. By improving and changing the existing university education to bring it into line with the demands of business and industry, it is hoped to reduce the numbers of graduate unemployment. The survey was also intended to discover where the greatest demand was likely to be for qualified staff and to assist the introduction of new courses to fulfill this demand. The researchers surveyed 154 of Spain's 1,500 largest companies - public and private, national and multinational. These companies employed 15 per cent of the graduates working for the 1,500. Twelve subjects accounted for 77 per cent of the graduate qualifications, of which economics, business studies and law were by far the most common while politics and sociology came very near the bottom. They also found that if a graduate and a non-graduate were competing for the same job where a degree was not required, well over half the employers chose the graduate. The employers in these cases said they preferred to take on industrial engineers, and the researchers point to their relatively high social status as a reason for this. In choosing staff, it is clear that a graduate's degree counts no more than his personal qualities. This may well be because the employers identified so many faults in the education system, that on average eight months' in-house training is given to new staff with specialist degrees. The criticisms of the universities were that the basic training was deficient, too theoretical and too generalized, not up-to-date enough, lacking in preparation for undertaking research, omitting all references to business or industry, lacking in complementary studies such as languages, management, and statistics and generally deficient in subjects which were essential for the modernization of business, such as new management techniques, marketing, and new technology such as lasers, robotics, biogenetics. The employers showed themselves keen to work more closely with the universities to sponsor students, to place students for short work experience, and to give their staff time off to perfect their skills as university teachers. The survey also revealed that employers with specialist qualifications in road construction, or telecommunications are going to be in demand. The Ministry of Education is planning to

New campus closed after demo

From Benny Morris

JERUSALEM

The Israeli military government in the occupied West Bank has closed down the new campus of Bir Zeit University following violent demonstrations by the student body outside the campus on March 31, to mark Palestinian "Land Day". The closure order is for one month. The action followed less than two months after the university's old campus was closed down for 90 days. The whole university is now inactive.

More school-leavers opt for vocational training

from Barbara von Ow

MUNICH

Vocational training is becoming increasingly popular among Germans who leave school with the Abitur qualification, according to official statistics which show a significant shift over the past decade. While nine out of ten Abitur holders wanted to go on to university in 1972, only six opted for a degree course last year. In 1983, 24 per cent of all school-leavers were undecided whether they wanted to study at university and 14 per cent decided against it. Further, 20 per cent of those who wanted to study intended to do some form of professional training before their degree course. Between 1980 and 1983 the share of those rejecting or thinking of rejecting the option of higher education rose by 2.3 per cent among male and by 3.6 per cent among female Abitur holders. This trend was confirmed by another study which showed that every sixth school-leaver from 1980 was in non-university training two years later. Most considered their vocational training as definite and were not intending to break it off to go to university. Still, twice as many men (54 per cent) as women (25 per cent) intended to go on to a degree course after their training. This could put further pressure on West Germany's beleaguered higher education system, the experts noted. In 1975, 20 per cent of Abitur holders who went into vocational training, had broken off their training to go to university. In 1982 only 5 per cent had left their training prematurely. Meanwhile figures from the federal employment office in Nuremberg showed that the gap in salaries between degree holders and non-academics is narrowing continuously due to an alarming glut of university leavers. According to the statistics, an employee with vocational training received 1.38 times, a polytechnic graduate 2.16 times and a university graduate 2.5 times the gross income of an unskilled worker. The gap between the salaries of university degree holders and people with vocational training has narrowed from 120 points (1974) to 112 points (1980). Although the share in total employment of university degree holders climbed from 5.3 per cent (1970) to 8.3 per cent (1980), the overall number of unemployed university leavers soared by 25 per cent between 1975 and 1980.

Bulgarians switch on

The Bulgarian Communist Party has called for a training scheme to familiarize all students with basic computer skills, and for the rapid development of appropriate educational software. This proposal, made at last month's national conference of the party, originates, apparently, from party leader Todor Zhivkov himself, and is part of a new drive to "transform quality into a cult" on all sectors of the economy. According to Mr Ognyan Doynov, the minister of machine building, the Politburo of the party has for some time been worried about the "considerable inconsistencies" between Bulgarian hardware and software capabilities. Bulgaria, in fact, has a fairly sophisticated computer industry, including several joint projects with the Soviet Union, and this year is launching full-scale production of its "Pravets-82" personal computer. In Doynov's words, however, "computers without programming are dead objects." Bulgarian higher education is already highly job-orientated, with future employment fixed at the end of the fourth year, and the last 18 months organized on the sandwich principle. Without "knowledge and practical experience in learning about microprocessors, personal computers and so forth" wrote Doynov in the party daily *Rabnichesko Delo*, young people will not be able to "develop their talents fully" and will end up "offended and disappointed with themselves and with society". Mr Krimsky is concerned when scientists retained by the government to analyse drug or therapy efficacy are also retained by corporations directly or indirectly benefiting from a clean bill of health. As part of his study for Tufts University, he looked at the number of scientists who participated in National Institute of Health study panels or public advisory groups. The national institute is the government's umbrella agency for medical and biotech research. Among these scientists, he said, 40 with direct ties to industry were sitting on various juries. Among those 40, "we found many heads of departments, deans, chairmen, a college president and a former director of the national institutes of health," he said.

Protest threats deter Kissinger

Mr Henry Kissinger, secretary of state to the Nixon-Ford government, has bowed out of a scheduled appearance at the Fletcher School of Law and Diplomacy to avoid "confrontation" with abusive demonstrators. School officials said they believed that protesters would not actually disrupt the former diplomats talk on US-Soviet

Clash of interest concern

At least a quarter of the membership of the National Academy of Sciences, a congressionally chartered private agency which referees scientific controversies, are on the payrolls of the American industries benefiting most from new discoveries in biochemistry, genetics and medicine. "This doesn't mean they're in the pocket of big business," says Mr Sheldon Krimsky, a researcher at Tufts University, "but the circumstances pose a danger of the perversion of science in the interest of markets". Mr Krimsky made his comments at an assembly of the American Society of Law and Medicine. The forum, on "genetics and the law", was sponsored with the Boston University schools of law, medicine and public health. In a study of 345 scientists affiliated with 50 different biotechnology firms, it was found that 62 of them were enrolled with the national academy of sciences, he said. "A conservative shift in attitudes and behaviour among scientists happens incrementally, without conspiracy or malice. Scientists and engineers with a stake in the commercial outcome of a field cannot, at the same time, retain a public interest perspective. As the commercial ties increase, the scientific community becomes desensitized to the social impacts of science," he warned. Harvard Medical School's Dr Bernard Davis suggested that the situation is now a fact of life. "While I don't think this is necessarily bad, I do think it needs a lot more policing than it's getting."

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PEER REVIEW

In December 1982 *The Times Higher Education Supplement* started a survey to discover how academics in various disciplines regarded the standing of their subjects. The results have now been reproduced in reprint form in two sections as follows:

Peer Review (i)

Compiled from surveys done in December 1982 and August 1983 covering Civil Engineering, History, Economics, Physics, Politics, Chemistry and Architecture. A six page reprint price 80p.

Peer Review (ii)

A two page survey compiled from results first published in January 1984, covering Business Management, Biology and English. Price 25p.

Cheques should be made payable to Times Newspapers Limited and sent to: Frances Goddard, The Times Supplements, Priory House, St John's Lane, London EC1M 4BX.

Patricia Santinella

The author is senior principal scientist and officer at the Rutherford Appleton Laboratory in Oxfordshire. He is also a member of the British Association for the Advancement of Science. The book is published by Heinemann Educational Books.

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A light from within

Julia Margaret Cameron 1815-1879
John Hansard Gallery, University of Southampton

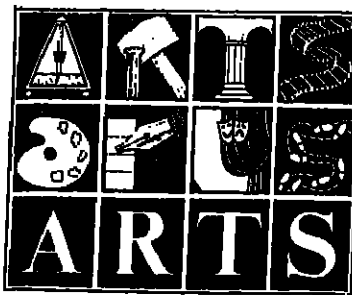
It is not the mission of photography to produce smudges... if studies in light and shade only are required, let them be done in pigment or charcoal, with a mop if necessary, but photography is preeminently the art of definition, and when an art departs from its function it is lost.

So wrote H. P. Robinson, the so-called "father of Victorian pictorial photography", in 1869. He was discussing the work of Julia Margaret Cameron, and to some extent one can sympathize with his tone of exasperation. Mrs Cameron was being highly praised almost universally by "artists and critics ignorant of the capabilities of photography" for effects in her work which were "in technical terms defects. She took long exposures (between two and seven minutes) during which her sitters would sometimes move and register double images; she used a lens which could not bring her whole subject into focus; and she was sometimes careless in the preparation of her plates and prints, so that scratches, spots and cracks marred the finished image. The praise showered on her photographs, and her own claims for them, may well have seemed perverse to Robinson.

The arguments of the admirers... were that the excellencies existed because of the faults and that if the photographs were in focus, or more carefully executed, their merits would be less.

At which, no doubt, the father of Victorian pictorial photography shook his head in weary disbelief.

Mrs Cameron is often labelled a "Pre-Raphaelite" photographer, because she shared that movement's enthusiasm for English poetry (particularly Tennyson) and for religious and typological subjects. But her aesthetic, particularly in matters of "realism", was very different. Indeed it might be said that in her self-focus photography she strove for effects of idealization more suited to painting, while the Pre-Raphaelite artists attempted the realism of the photograph. As Mike Weaver points out in his cata-



Lynne Truss on a great Victorian photographer

logue to the exhibition, the photographer may have been influenced by what her husband, Charles Hay Cameron, had written in a treatise on "the sublime and the beautiful" in 1835:

No man of taste can endure that his reflections upon the death of Cleopatra should be interrupted by the obtrusive accuracy with which the velvet or satin of her dress is depicted. The artist, therefore, who wishes to show how well he can represent silk and velvet... should paint a silk mercer's window, but not a dying queen.

Mrs Cameron was a pioneer in that she used photography, in Mike Weaver's words, "as a graphic medium of expression rather than as an instrument inherently bound by realism".

The John Hansard Gallery's exhibition is intelligently organized, grouping photographs thematically, according to the biblical typology ("Sacred and typical", "Legends and idylls", "Prophets and sibyls") which the organizers perceive in her work. They have deliberately eschewed the "anecdotal" approach to her life and work which normally prevails, to the extent that they rarely identify her sitters. There is a point of "realism" at stake here of course: if the viewer knows that the model for "Pomona" is Alice Liddell (Lewis Carroll's Alice), then he may

well think of the photograph more as a picture of Alice Liddell with her hair down, than as a "type" of the "sibyl" - and this would damage the thematic emphasis of the exhibition. But the decision not to name the sitters doesn't solve (indeed it may compound) the problem inherent in any appreciation of Mrs Cameron's work, that though her images may be ideal representations, they are nevertheless photographs of real people. And the incomprehensibility of the two elements is the main obstacle to her work's claim to Art. This was noted by the poet Coventry Patmore, reviewing an exhibition in 1866, when he complained of "the effect of the 'realistic' art which most of her groups persist in maintaining for themselves, after all has been done to bring them into the pure region of idealism".

It would not damage the exhibition's thesis were the catalogue to concede a little more to those unfamiliar with the context in which Mrs Cameron worked and in which she is normally viewed. The organizers are no doubt determined to avoid the resurrection of the stories of Mrs Cameron as a rather silly, frantic woman, pouncing on people who happened to pass her cottage and dragging them in to pose as Lancelotti, or on the Isle of Wight - Lord Tennyson, G. R. Watts, Sir John Herschel and Sir Henry Taylor - with requests for sittings by them and their guests; making her models pose for many minutes without head supports; and even locking one of them in a cupboard for a couple of hours to attain a suitable expression for a photograph called "Despair". But there might have been more to indicate her place in the history of photography and in particular on the difficulties of the wet collodion process she used. Stories about her pouring gallons of water over each photographic plate may smother of the anecdotal, but they also demonstrate the fierceness of her commitment to the medium.

However, having set the premise that Mrs Cameron was a serious religious artist, the Southampton exhibition lets the work speak for itself. And the method is vindicated, because the photography expresses itself with an undeniable spiritual seriousness. Like

her friend G. F. Watts Mrs Cameron believed that a portrait should be a window on the soul, and her method of lighting and her long exposures produce luminous eyes and foreheads while also conveying a strong sense of emotional depth. And, as Mike Weaver points out, the remarkable quality of the difficult albumen print process she used is that "the light appears to come from within", so that in her famous portrait of Carlyle, for example, the head is seen to be a lantern, limited in its throw, but terrifically impressive.

Julia Margaret Cameron, 1815-1879, continues in Southampton until 28. It then travels to the Museum of Photography, 10, City Art Gallery, Birmingham (June 16 - July 22); the City Art Gallery, Sheffield (July 28 - Aug 2). After a tour of Europe, the exhibition returns to the John Hansard Gallery in August. The exhibition catalogue by Mike Weaver is published by the Press at £9.95 and £3.75.

play Elizabethan pieces and set falls, Ruk and Scaratti.

Others:

April 17, ICA, London. Prize-winning Quebecois artists. Hebert describes her work with water, Cedric May, president of Association of Canadian Artists, Professor of French at Brock University.

April 20 - 22, University of Warwick. Heart of England. Culture from traditional weaving, power, corn dowers to modern opera and puppetry.

To May 30th, Woburn. 10th. National Gallery, London. Theatre. Degas lecture series to coincide with the 150th anniversary of his birth and with the opening of the NG of the portrait by Rouart in her father's study.

And much, much more...

The 29th Sunday Times National Student Drama Festival began yesterday at Breton Hall College in Wakefield. As always, the eight days of the festival are packed with events, with professional workshops and lectures running alongside the 18 student productions that are to be judged.

The productions this year represent a wide spread of dramatic forms. There are ten revivals, including O'Casey's *The Plough and the Stars* (Manchester Umbrella Company), the Ted Hughes version of Seneca's *Oedipus* (Breton Hall College), C. P. Taylor's *Good* (St Andrews University) and Shakespeare's *The Merry Wives of Windsor* (Cambridge European Theatre Group). There are also eight new works - four with single authors and four described as "group works". The new plays are Alex Kenton's one-man play *A Taste of Lemon* (Exeter University); Mike Elliott's *Bread in Butter Gums* (Lancaster University); Polly Teale's *Growing Pains* (Manchester Umbrella); and Jane Thomson's *Simple Game* (Mansel House School). The group works include two epic-boundary ventures: a

version of *The Odyssey* (Oxford University) and a production based on Le Roy Ladurie's book about the medieval peasant life, *Medieval Peasant Life*, (Bretton Hall).

While the spread of the plays is wide, however, there is a concentration in the professional final productions. Both the Hall, the host college, and the Umbrella, have four productions. The festival has had more than one finalist.

Judges this year are: Ronald Allen, director of the Royal National Day Times theatre critic; Ronaldson, writer Michael Palin, director of the RSC's musical *My Darling Clementine* (of *Major Tom* fame); David Pownall (of *Major Tom* fame); and the RSC's musical director, Wollfenden. Workshop. The festival is a certain vitality to the field and practitioners are carried along without being obsessed with methodological purity. The less attractive side is that it is not at all clear what the festival's relative lack of institutional support means for the future. It is a pity that the festival is so obscure of all is the target of all this

BOOKS

The new battle of the books

by Iain Wright

The World, the Text, and the Critic
by Edward W. Said
Faber, £15.00 and £6.95
ISBN 0 571 13264 2 and 13265 0

There's a full-scale war going on in academic English studies at the moment, and when there's a war on (as a slightly smoke-blackened Frank Kermode recently remarked) "the who ventures into no-man's-land brandishing cigarettes and singing carols must expect to be shot at." Very true, but more pugnacious peace-keeping might perhaps have some effect. Edward Said, who is Parr Professor of English and Comparative Literature at Columbia University, New York and whose critical essays have just been published in Britain, gives a stirring demonstration of how that might be done.

The current Battle of the Books is often portrayed as one between the traditionalists, standing for "scholarship", and the avant garde, standing for "theory", and Said has a foot in both camps. He has a deep respect for the old-fashioned virtues of painstaking historical scholarship: his encyclopaedic study of western attitudes to the East, *Orientalism*, testified to that, and these new essays are full of his sense of almost nostalgic regret that modern criticism has produced no successors to the great hero-scholars like Eric Achacach, Leo Spitzer, Joseph Needham and Raymond Schwab. On the other hand, he is excited by and impressively well-read in contemporary continental theory and what he justly describes as "the period of almost renaissance 'brilliance' in textual criticism which the theoretical speculations of writers like Roland Barthes, Jacques Derrida, Jacques Lacan and Michel Foucault have stimulated."

The result is a collection of essays of a breadth and variety that few contemporary critics in the United States, and none in this country, can match. They range from detailed discussions of Swift's "Tory anarchy" and Conrad's narrative technique to general reflections on "Roads Taken and Not Taken in Contemporary Criticism", and from historically specific investigations of the role of oriental philology in French culture to a meditation "On Originality". But behind this ostensible variety there is a powerful unifying force: Said's determination to impose some sort of order on what is fast becoming a bewildering chaos of competing approaches to literary studies. This is best done, he suggests, by insisting that the real issue is not in fact a dispute between traditional scholarship and avant garde theory. For all the huffing and puffing, that battle has on the whole led to no serious engagement between the protagonists, who begin to look more and more like Tweedle-dum and Tweedledee - potentially comic, but liable to divert our attention

from more important matters.

Said is, I think, absolutely right about this, and he is one of the very few contemporary critics who is making the point with the necessary force. The real battle, the genuinely deep divide, in modern English studies remains the same one that has always been, ever since I. A. Richards invented the subject in the early twenties: that between formalist (Said's word is "textualist") approaches on the one hand, and historical (he prefers "worldly") ones on the other; between those which lead us *into* the text, and those that lead us *out* into a real, solid, extra-textual world, as Said bluntly puts it in the key-essay of his book, taking Derrida and Foucault to exemplify the two alternatives. And as far as that battle is concerned, Said makes no attempt whatever to play the role of impartial mediator. He is splendidly partisan.

He has no time for "wordless" literary criticism, first because it tends to produce results which are trivial and uninteresting in themselves, and second because it is irresponsible, a treason of the clerks. Literary texts, he asserts over and over again, are part of a real human world, a world of human needs and interests, and any critical approach which suppresses or denies

that is guilty at best of self-deception.

at worst of actual complicity in inhumanity. The pursuit of scholarship in the nineteenth century, who failed to see that their language-theories, their ranking of "organic" Indo-European languages above "inorganic" Semitic ones, were rooted in racist and Eurocentric assumptions of a thoroughly "worldly" and disreputable kind, were in effect constructing a rationale for "twentieth century anti-Arab and anti-Jewish Orientalist scholarship", and must be held responsible for that. On the other hand, the pure theorists of our own day, who effectively deny literary texts any power to make statements about a real world outside themselves, need forcibly reminding that

it is no accident that the emergence of so narrowly defined a philosophy of pure textuality and critical non-interference has coincided with the ascendancy of Reaganism, or for that matter with a new cold war, increased militarism and defence spending, and a massive turn to the right on matters touching the economy, social services, and organized labour. In having given up the world entirely for the unthinkable paradoxes of a text, contemporary criticism has retreated from its consti-

tency, the citizens of modern society, who have been left to the hands of "free" market forces, multinational corporations, the manipulations of consumer appetites.

It's not clear to me that, even if every literary critic were an Edward Said, they could do much about keeping us out of the hands of multinational corporations, but never mind. The main point holds, and Said is again very well-placed to make it, not simply because he is well-read, but because he also has one quality conspicuously absent from the work of most other literary academics, of whatever camp: a strong sense of contemporary reality, particularly contemporary political reality. He is a Palestinian by birth, and a scholarly investigator of Europe's mythologizing of Asia (see *The Question of Palestine* as well as *Orientalism*), inevitably, much of his intellectual life has been spent in reflecting on that central opposition between "wordliness" and "textuality" and on how the ways in which we write texts (fantasies of Arabia, for example, or fairy-tales of wicked Jews) reflect and determine the ways in which we organize societies (being unmoved by the plight of the Palestinians, for example, or according to Auschwitz).

Three cheers for all that, and let both Tweedle-dum and Tweedle-dee take note. But I must close with a word of criticism for Said's work deserves to be treated sceptically, just as he treats sceptically those he admires. There has been too much guru-worship in Anglo-American literary studies in the last few years, and Said would not wish to encourage more of it. This book does have its faults. It is much easier going than its predecessor, *Beginnings*, and will thus, happily, have a wider effect. But much of it is still too breathless and densely written, too heavily larded with theoretical cross-references, and most damagingly, too encumbered by the very jargonizing which it sets out to resist. This is a depressingly widespread phenomenon: of the three most interesting and genuinely "worldly" critics writing in America at the moment - Frank Lentricchia, Fredric Jameson, and Said himself - only Lentricchia seems able to maintain a consistent lucidity. A campaign that supposes (for instance) that the most effective way of reopening criticism's frontiers with the real world is to march forth under a banner proclaiming "Down with 'self-validating hermeneutic occultation'!" (Said's actual words) still has just a whiff of the ivory tower and unreality about it, perhaps?

I agree with the sentiment of course, but it does remind me irresistibly of that famous day when the Association of University Teachers marched down Oxford Street with a banner reading "Rectify the Anomaly!" and were puzzled when the hearts of the masses did not leap at once in passionate solidarity.

Nicholas Abercrombie

Dr Abercrombie is senior lecturer in sociology at the University of Lancaster.

That is why he has been impressed by the work of Foucault (although Foucault too comes in for some well-deserved criticism for encouraging fatalism and sophisticated intellectual quietism), and why, in particular, he is attracted by Foucault's concept of a text as an "object-event". Not for Said the image of textual interpretation offered by the currently fashionable "deconstructionist" school of criticism, which pictures the critic unravelling an interminable web or labyrinth (Hillis Miller) or freckling endlessly through groundless semantic space (Jonathan Culler). Said would restore texts to their solidity, and place them squarely in the path of the academic library-head-in-air to trip him up. His method is essentially that of Dr Johnson who, when asked how he could refute Bishop Berkeley's proof of the non-existence of matter, "striking his foot with mighty force against a large stone, till he rebounded from it, answered, 'I refute it thus.'" The poststructuralists may provide any number of brilliant demonstrations of the fact that literary texts cannot be "reduced" to determinate meanings, that meaning is endlessly "deferred". But in practice they are so reduced and meaning is not deferred. The language is played, as Wittgenstein used to point out, whether or not philosophers show it to be groundless, and it is played by actual men and women in a real historical world.

Against what he rightly sees as "the prevailing idealist and antimaterialist bias" of criticism, Said proposes an approach which is "materialist" in the most literal sense, one which stubs its toes on things, knows all their thickness and weight, and sees each of them as "the special kind of cultural object it really is, with a causation, persistence, durability, and social presence quite its own". Enough of the prevailing orthodoxy which supposes that "Our Mutual Friend" can be understood better and better the more you see it as more and more of a novel, which is the more you study it as a finer and finer illustration of a precisely rearticulated theory of narrative fiction". Let us read it as an object-event of 1864 and of 1984. By all means use Derrida's analysis of the West's age-old distrust of writing to illuminate Swift, but let us remember that the current fashion for "deconstruction", its self-negations and "deconstructions", can and should be read not only as a sort of elaborate epistemological parlour game, but also as Swift's response to a specific, contradictory historical situation, "writing in a world of power".

Three cheers for all that, and let both Tweedle-dum and Tweedle-dee take note. But I must close with a word of criticism for Said's work deserves to be treated sceptically, just as he treats sceptically those he admires. There has been too much guru-worship in Anglo-American literary studies in the last few years, and Said would not wish to encourage more of it. This book does have its faults. It is much easier going than its predecessor, *Beginnings*, and will thus, happily, have a wider effect. But much of it is still too breathless and densely written, too heavily larded with theoretical cross-references, and most damagingly, too encumbered by the very jargonizing which it sets out to resist. This is a depressingly widespread phenomenon: of the three most interesting and genuinely "worldly" critics writing in America at the moment - Frank Lentricchia, Fredric Jameson, and Said himself - only Lentricchia seems able to maintain a consistent lucidity. A campaign that supposes (for instance) that the most effective way of reopening criticism's frontiers with the real world is to march forth under a banner proclaiming "Down with 'self-validating hermeneutic occultation'!" (Said's actual words) still has just a whiff of the ivory tower and unreality about it, perhaps?

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Reducing culture

Cultural Analysis: the work of Peter L. Berger, Mary Douglas, Michel Foucault and Jürgen Habermas
by Robert Wuthnow, James Davison Hunter, Albert Bergesen and Edith Kurzweil
Routledge & Kegan Paul, £13.95 and £6.95
ISBN 0 7100 9894 4 and 9994 0

Cultural studies are booming. The attractive side of this upsurge of interest is that specialists of many different disciplines including sociology, literature, linguistics, anthropology, history and philosophy have become involved in what they perceive as a common enterprise. This diversity of approach gives a certain vitality to the field and practitioners are carried along without being obsessed with methodological purity. The less attractive side is that it is not at all clear what the festival's relative lack of institutional support means for the future. It is a pity that the festival is so obscure of all is the target of all this

activity usually referred to, as in this book, as culture, a catch-all category, designed to encompass human artefacts of all kinds.

This book, by four American sociologists, illustrates the state of modern cultural studies very well. It effectively consists of four long essays on the work of Peter L. Berger, Mary Douglas, Michel Foucault and Jürgen Habermas with an introduction and conclusion reflecting, briefly, on the nature of cultural analysis and the contribution that the four writers have made to the subject. The individual essays are, in general, very successful. They are clearly written and all serve as much needed introductions to theorists whose work is not all that often reviewed at this length. The often reviewed at this length. The essays demonstrate the very great diversity of approaches adopted by Berger, Douglas, Foucault and Habermas.

According to the authors, Berger wishes to understand culture as the totality of human products which help to compensate, for the struggle for survival for the relative lack of instinctual determinants. His method is to provide a "bridge" between the "sub-

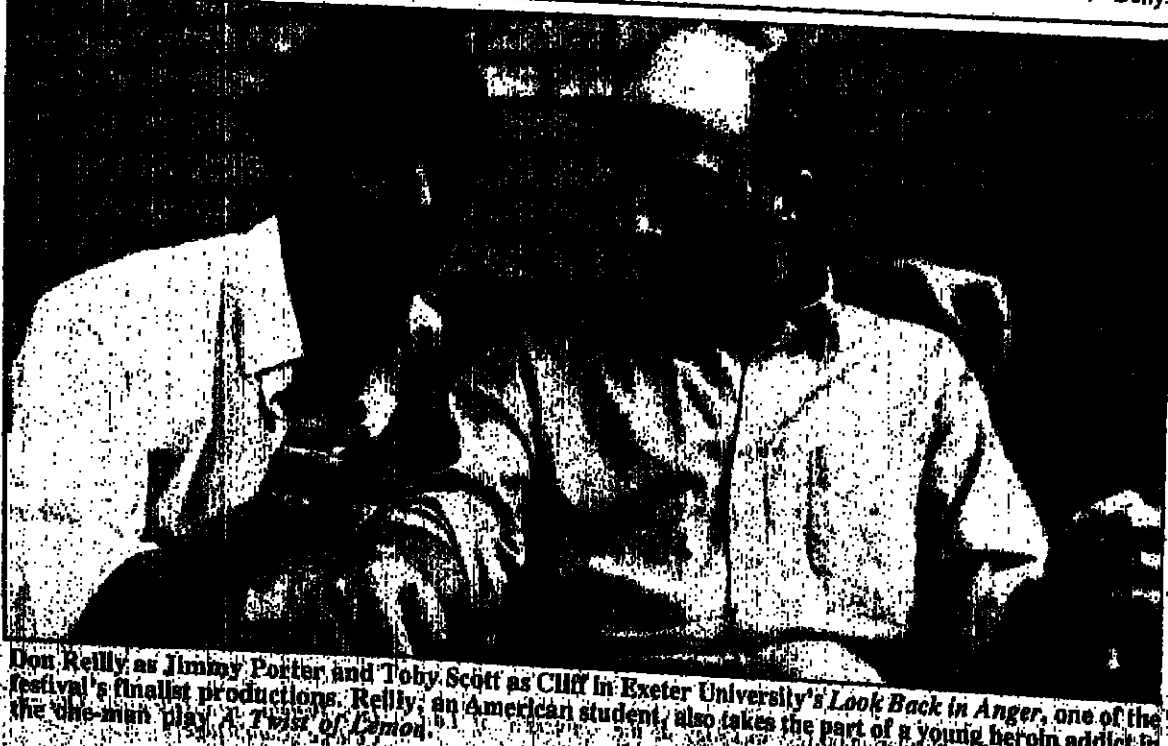
ject's creation of meaning and the imposition of meaning on the subject by society. Douglas's interest is in systems of classification and the way that societies set symbolic boundaries. Her method is to investigate phenomena, like dirt, which being at the margins of boundaries, show up the boundary-maintaining mechanisms. Foucault's objects of study are discourses, chiefly those concerning madness, illness, punishment and sexuality and the connexion of these forms of knowledge with power. While it is difficult to characterize his method, his archaeological technique has something in common with structuralism. Habermas has a concern with the process of communication, mostly through language, and the ways in which such communication may be socially distorted. His method combines insights from Marx, Weber and Freud.

While the authors have written useful, if relatively unrefined, essays on four important writers, their attempts to make general points about the analysis of culture are very much less successful. They argue that there is an emerging "framework" for cultural analysis to which the four writers contribute. Three elements in this framework are of particular importance, the role of subjectivity, an

antipositivism and a belief that the cultural sphere is relatively independent of the social structure and is worthy of analysis in its own right. There are two difficulties with this formulation. First, the differences between the four writers are much greater than their similarities, a conclusion ironically demonstrated by the detailed exposition in the book. Could Foucault, for example, even talk to Berger about subjectivity? Secondly, the discussion is pitched at such a general level as to be positively banal. It is difficult to think of any analysis of culture who is not antipositivist in the vague way indicated in this book. Similarly, there are very few serious theorists who argue that one can "reduce" culture to society, even if it were clear what that meant, and certainly not most Marxists and sociologists of knowledge as is suggested in this book. A theoretical account of the relationship between culture and society would have to be more detailed to be useful.

Nicholas Abercrombie

Dr Abercrombie is senior lecturer in sociology at the University of Lancaster.



Donnelly as Jimmy Porter and Toby Scott as Cliff in Exeter University's *Look Back in Anger*, one of the festival's finalist productions. Relly, an American student, also takes the part of a young heroin addict in the one-man play *A Taste of Lemon*.

BOOKS

A-Z of mining

The History of the British Coal Industry
Volume 2, 1700-1830: The Industrial Revolution
by Michael W. Flinn
Clarendon Press: Oxford University Press, £35.00
ISBN 0 19 828283 4

The British coal industry has not lacked historians. The bibliography of the present book contains over 260 secondary works on coal-mining history or closely related matters. Yet, apart from Neil Buxton's survey (1978), most recent scholarship has been regional in focus or has concentrated on a distinctive aspect of the industry. There has been no general history of coal-mining during the eighteenth century since 1929, and that despite the obvious centrality of coal to early industrialization.

The richness and particularity of the literature makes the comprehensive *History of the British Coal Industry* (sponsored by the National Coal Board) all the more welcome - if only to mop up the considerable pools of published research which have accumulated. However, no one who knew the late Michael Flinn would for one moment suppose that a mere integration of secondary works would be the result of his labours. His many admirers will not be disappointed at the last work from his pen. He has taken the opportunity to locate and study an impressive range of archival material, shedding new light on even the most mundane facet of the mining saga.

In 1700 the chief market for coal lay

still in domestic heating. By 1830 coal was being used for virtually every modern purpose except the generation of electricity. The iron industry after 1750 and gas lighting from about 1820 were just two of the new large-scale consumers. Professor Flinn reviews estimates of coal output and shows convincingly that production increased roughly tenfold over the period from 1700-1830. Although mining remained a pick-and-shovel activity at the coal-face, it underwent enormous technical advances in the support sectors (pumping, winding, extraction strategies, underground and surface transportation) which enabled its expansion to occur with little or no increase in real prices.

Yet despite so much detailed historical research, the coal industry has seldom figured very large in the grander speculations of economic historians about the nature of industrialization, perhaps because, as Professor Flinn observes, its total product was never a particularly large share of the gross national product. But the growth of mining yielded many significant spin-offs, quite apart from the importance of cheap fuel. The improvement of river navigation, the creation of canals and the construction of over 1300 miles of horse wagonway were all in large measure responses to the transport needs of mining, as was much investment in shipping and harbour facilities. The development of steam power was for a century intimately connected with mining requirements, while the eventual marriage of steam and wagonway technology provided the prelude to modern railways.

Professor Flinn's interpretation of his brief has been characteristically generous. The economic dimensions of coal-mining are fully explored, with ample reviews of capital, costs, prices, profits and marketing. Mining was highly speculative ("it is easy to get engaged, but vexation and ruin frequently are the result", commented Thomas Telford in 1820) yet since it was largely financed by profit ploughbacks, the returns were clearly often

better than coalmasters admitted. Technology is rightly accorded much space, with details provided on everything from surveying and boring through drainage, ventilation, working methods to surface transport, including a valuable note on canals (which does not, curiously, appear to make use of Huddfield's researches, one of the book's few lacunae). The social ramifications of mining are well covered in chapters on labour, industrial relations and the life of the mining communities themselves, where it is good to see problems of health and welfare given adequate treatment.

In a book erected on such well-worked ground as mining history there can be few real surprises. Yet the archival research yields many new exemplifications of old truths or deepens our understanding in ways too numerous to list here. There is also an exceedingly careful and judicious quantification of the fragile data available on such things as output, export, investment and wages. Professor Flinn, in all his work, had too much respect for the hard and awkward realities of history to allow himself to be seduced by inappropriate econometric methods and it is typical at once of his modesty and integrity that, after a long and detailed chapter on wages, he cannot be used as anything more than the roughest of indicators. They are none the less the best figures we have yet had and one may doubt whether we shall get better.

Michael Flinn was a scholar of enviable erudition and analytic ability, an influential teacher, a warm and caring human being. This book, with its wide scope, deep learning and humane approach is a fitting memorial.

Baron F. Duckham

Baron F. Duckham is professor of history at St David's University College, Lampeter.



An 1823 engraving of miners at work: "mining remained a pick-and-shovel activity at the coal face."

Growth subject

Taxation and the Incentive to Work (second edition)
by C. V. Brown
Oxford University Press, £15.00 and £5.95
ISBN 0 19 877212 0 and 877212 2
The Economics of Taxation (second edition)
by Simon James and Christopher Nobes
Philip Allan, £18.00 and £8.95
ISBN 0 86003 051 2 and 145 4

The economics of taxation has changed remarkably in the last fifteen years. This has begun to be reflected in undergraduate texts and the two books (both second editions) which are the

subject of this review are good examples. The advances in the subject are both theoretical and empirical including analysis of the effects of taxation on behaviour and markets on the one hand and, on the other, the understanding of how the description and estimates of these effects might influence the policy question of how taxes should be set or reformed.

In crude terms, the first set of issues concerns the effect of taxes on the size of the pie, or the question of incentives, and the second, which is undoubtedly normative and involves distributional judgments, the problem of the appropriate relationship between the size of the pie and its division among members of the community. The problems are, of course, much more detailed than this simple description suggests since one has to analyse the effects of taxation of different goods, the income (for example, corporate, capital, and savings) and the relation

between taxation and risk-taking or investment and so on.

The book by Professor C. V. Brown is concerned with a single and specific question: the effect of taxation on labour supply. Simple theory tells us that taxation could increase labour supply in that the lower net wage rate leads to a lower income and thus less ability to afford leisure, or it could decrease labour supply because the "price" of leisure, in terms of income foregone, has gone down. It is an empirical task to discover what the general and unambiguous answer is and we do not find one. There are many difficulties facing the researcher and Brown documents them clearly and carefully. For example, if we interview people to ask them how their behaviour would have been affected had taxation been different, then the answers are hypothetical and the question, nevertheless, is a hard one to answer. It is a pity that this has been undertaken by

economists. If, on the other hand, we try to investigate how individuals have responded to the tax system, we are generally led to compare the hours of work of different individuals with different wages.

Most of Brown's book concerns the use and analysis of such data and how one might cope with the difficulties raised by constraints on individual choices, the problems of measuring wages, complex budget constraints, biased samples and so on. While the relation between hours and wages provides a rather narrow view of analysis, a rigorous and empirical approach to broader interpretations is a useful account and the book provides a useful account and the book provides a useful account and the book provides a useful account.

The text by Simon James and more general and provides an introduction to many issues as well as a valuable account of the British tax system (particularly useful in the annual "workbook" to accompany the volume). It will be of general use and be read by second-year students from other disciplines as well as economists. The breadth of the subject matter implies that the authors restrict themselves to a fairly general account of most of the problems of the subject.

Both books fill important gaps in undergraduate markets and both are widely used. The subject, however, has continued to grow very quickly and there are a number of crucial areas where the balance between direct and indirect taxes and the analysis of reform which receive inadequate treatment, even allowing for the constraints of space and audience. But these are, I hope, further texts on the subject and doubtless there will be more editions.

Nicholas Stern

Nicholas Stern is professor of economics at the University of Warwick.

Power block

The Origins of Trade Union Power
by Henry Phelps Brown
Clarendon Press: Oxford University Press, £15.00
ISBN 0 19 877115 0

Academic studies of industrial relations are slowly moving away from painstaking descriptions of institutional structures and straightforward labour economics, towards more contentious sociological and political issues. This book illustrates this trend. After producing many classic economic studies of pay and prices and a major descriptive book on the development of British industrial relations, Henry Phelps Brown has turned his attention to the vexed question of trade union power.

Phelps Brown employs the comparative and historical approach familiar in his labour economics. The development of trade unionism in Britain, the USA, Canada and Australia provides the material to illustrate what he sees as the particular problems of British trade union power. However, he does not spell out what he means by power, neither does he analyse union power relative to that of employers or government nor assess the relative power of trade unions in the four countries studied. Indeed Phelps Brown argues more in terms of reasonable versus unreasonable union functions than in terms of union power. He convicts British unions of having used their power to block productivity and economic growth, to cause inflation and negate monetary policy. He considers their resistance to legal constraints on their strike power and their opposition to the creation of a legal framework to regulate their bargaining activities to be politically irresponsible.

In chapters two to eleven, a review of the history of British unions, he identifies the origins of the problem in the rise of shop-floor militancy of the late 1960s. This phenomenon, which occurred widely across developed industrial economies, he attributes to the higher expectations of the younger, influence-bred workers. Their rising and unreasonable demands caused particular damage in the UK because of the absence of a framework of industrial relations law.

Several chapters are concerned with the relationship between trade unions and British law. Phelps Brown traces the origins of British unions' aversion to legal regulation to a series of historical accidents. The courts overreacted to the earliest trade unions because of fears of Jacobinism. The first unions, having no franchise, did not see the law as a tool for their potential advantage, and the nature of British common law was "poorly adapted to embrace, contain or control trade unions". Finally, the over-hasty and high-handed introduction to the 1971 Industrial Relations Act - whose detailed provisions Phelps Brown in many ways endorses - confirmed these attitudes. In this discussion of the admittedly crucial relationship between unions and British law, it is unfortunate that the review does not go beyond the 1971 Act to comment on the union's volte face to embrace the positive legislation of the social contract era, or to comment on their defeated acquiescence in the face of

the present Government's amendment Acts.

In the three chapters describing development of trade unionism in Australia, Canada and the USA, Phelps Brown describes the legal framework that surrounds trade unionism and makes the point that trade unionists are generally responsible in their own countries. However, Phelps Brown does not say this. Given the counter-arguments that are raised against such a view, the hints in the book's title suggest that this point is no doubt being made.

Turning to prescriptions in chapter 12, Phelps Brown suggests that to lessen the damage sequences of unrestrained bargaining. First, there should be a national fund to provide payments for approved schemes or early retirement for the personal ends of progress and remove this as a restrictive practice. Secondly, should be regulated by a reasonable collective bargaining system, distinguishing reasonable by adversarial collective bargaining should be replaced by more and rationally administered policies.

These prescriptions are sketched out and one long for a detailed discussion of the implementation. For example, that adversarial collective bargaining "works as a positive economic force" is a statement which is subject which has dominated the sociology of "corporatism" debate. The book ends with the suggestion that the major requirements changes in unreasonable and unrealistic employee attitudes by means of disclosure of relevant information, the traumatic experience of both Phelps Brown does not admit counter-arguments which present more positive view of trade unionism. Phelps Brown does not admit counter-arguments which present more positive view of trade unionism.

But there remains a deep sense in which the Japanese, German, Swedish or French managerial elite are better educated, more thoroughly, and over a longer period than their British counterparts. Academics nowadays often suffer from the self-doubt that where their values appear to be out of tune of those with industry, it must be the academic values which are wrong. But this is by no means self-evident. It is at least possible that the problem with much of British industry and commerce is that it is not educated enough to the level appropriate to recognize its own lack of education.

The leading British business schools set up in the wake of the Franks and Normanbrook reports had to make their impact first at the postgraduate and post-experience level. There has not been the tradition of serious undergraduate business economics education as in Germany or of broad-based commercial education. The undergraduate Bachelor of Commerce degrees, have not had many imitators though there are signs that this tide is turning. It is still more common to undertake undergraduate education in an individual discipline before tackling the vocational austerities of an MBA. British management academics have still not achieved the recognition in higher education that management education is itself intellectually challenging, demanding and worthwhile in its own right.

The ambiguities in the culture are translated into some quite specific constraints on development, not least in the area of funding. It is still regarded as plausible to expect that management schools will be self-financing and self-supporting in a way that other disciplines, such as engineering, law or accountancy even, are not. While business schools and management centres rightly pride themselves on their competence and capability at meeting demands of the market, this short-term flexibility may be bought at the cost of long term education of objectives.

The result has been that while management education has undoubtedly grown during the past decade, it has still not had the impact within higher education that either a thorough-going market based policy towards higher education or more consistent Governmental support could have produced. In most

THE TIMES HIGHER EDUCATION SUPPLEMENT 13.4.84

Management Education

Making sure the marriage works

David Weir on the current situation in management education in the United Kingdom

Management education is still regarded as something rather new and is imperfectly understood even by those quite close to its activities and its products. As Jim Ball, retiring principal of London Business School, points out "all that management education" is really still rather small beer in terms of numbers in higher education compared to the large professional schools of law, engineering and medicine (or indeed of general arts or science).

A relatively small proportion of United Kingdom managers have exposure to any sort of management education, whether institutional or company based. Much of industry of all kinds is simply unpersuaded as yet of the desirability of serious disciplined and sustained study in the formation of managers.

Britain is, of course, compared to Europe or the United States in many respects still a rather uneducated society. Historically, there has also been a determined suspicion of intellect in general and of research in particular, in the culture.

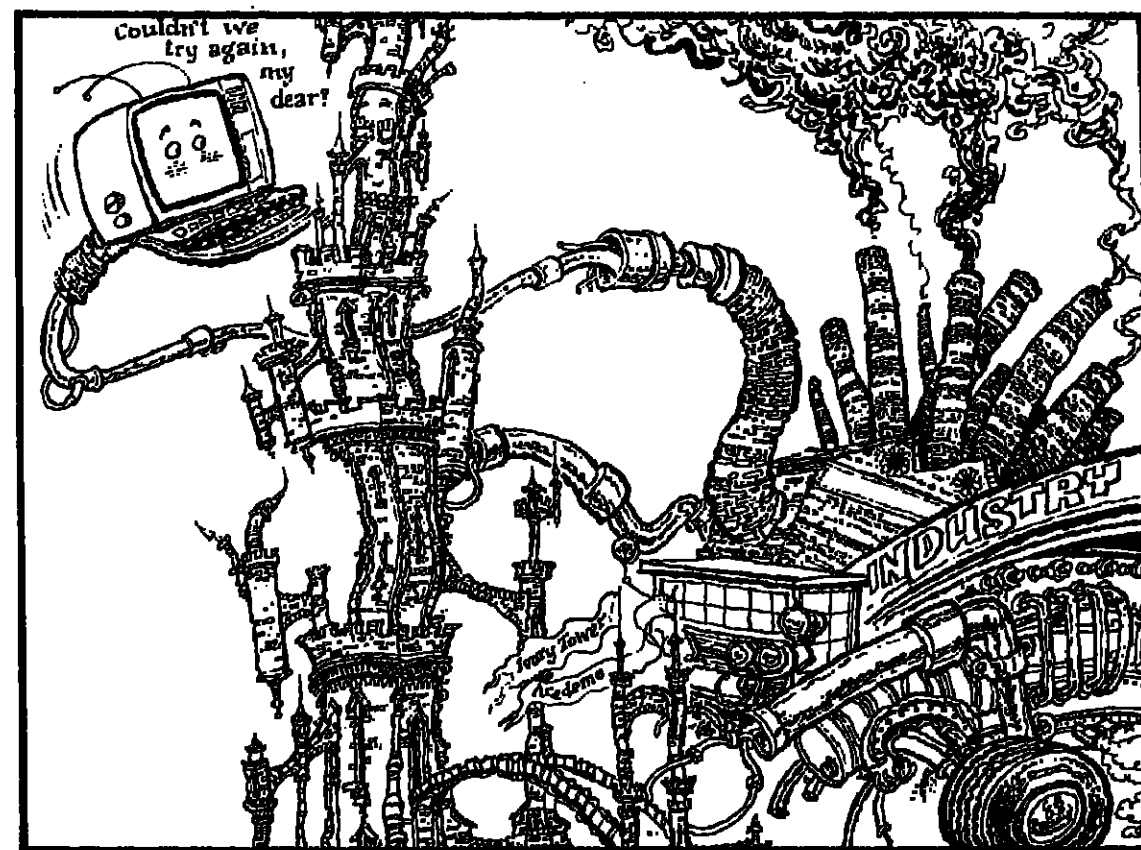
Yet the demand for management education has remained buoyant and has indeed appeared to strengthen through the current recession. While big company training budgets have been cut, the demand for middle management skilling and re-skilling, whether by part-time Master of Business Administration, Diploma of Business Studies, or specific short courses, has remained strong. We in Glasgow introduced our first part-time postgraduate degree for professional middle managers in 1975, now there are over 20 such programmes in the United Kingdom.

But there remains a deep sense in which the Japanese, German, Swedish or French managerial elite are better educated, more thoroughly, and over a longer period than their British counterparts. Academics nowadays often suffer from the self-doubt that where their values appear to be out of tune of those with industry, it must be the academic values which are wrong. But this is by no means self-evident. It is at least possible that the problem with much of British industry and commerce is that it is not educated enough to the level appropriate to recognize its own lack of education.

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academic institutions, management skills are still tangential to the main thrust of higher education and still more of professional formation in general. London Business School is a fine place in its own estimation and doubtless that of many others within our trade. It is not, I suggest, still a very important part of London University in the eyes of most senior academics within that university. If this is true of London which is inevitably going to be the biggest and best and to get more of everything, it is likely to be true still in other places.

Perversely, the great British business schools themselves have recreated their own version of this misalliance of cultural patina and survival skills. Most schools fail to evaluate the humble or boring thoroughness of production, and manufacturing. It is argued by some that the existence of the leading business schools has exacerbated the decline of manufacturing by encouraging a flow of talent from the sector into more prestigious and better rewarded fields.

The results of the University Grants Committee cuts in 1982 show that there can be a plain conflict between academic values and conventional academic hierarchies of excellence, and the demands of education for use and relevance. The downward institutions of Salford, Aston and Bradford which emphasize production and manufacturing suffered most severely. It is therefore by no means clear that the creation of a few select "centres of excellence" on the lines of London and Manchester, however well-founded these claims to excellence may be, will ever have much relevance for the mainstream of British management practice.

While it may be a basis for considerable pride and satisfaction that the Lewis Elliotts of the 1980s have come to find it just as acceptable to dine at Sussex Place, Regents Park, as in All Souls, that fact itself may also imply the possibility that the business schools are becoming incorporated into the system which created the mess in the first place.

Where education itself is regarded in British society essentially as a consumption good rather than an investment opportunity, it is not surprising that management education is seen in the same light. So there has been a trendiness and a faddism and proliferation of methods in the management development field. Are there so many methods in natural science? In medicine? Has anyone been concerned to find out? Is the concern for proliferating "learning" methods a system of vitality or desperation?

In a recent paper an alternative paradigm is presented by Tom Lupton addressing the need to confront the conflicting claims of rigour and relevance. He writes: "given a situation where we become more deeply involved in con-

tinuing education on a larger scale, how can and should graduate business schools organize themselves to combine rigour and relevance fruitfully, economically and flexibly? What kind of people does one need to do it effectively? These are not rhetorical

questions. In Manchester we have been seeking an answer in them for 16 years and we are still changing in response to changes in markets. Manchester has been notably more adventurous and innovative than most European Schools in tackling the

problem". While this statement of the problem indicates a refreshing adaptability and willingness to confront the real needs of client, there is an *ad hoc* desperate lack of self-confidence in this kind of adventure. It is more brutally, if we do not know what we are about, how can we expect the environment to teach us our own business? Good managers have to be responsible, dynamic, innovative, adventurous; yet many great businesses have been built by boring second-rate men who had the vision to provide a lower price from the competition because they had just vision enough to take just enough cost out of the product. Conversely many great researchers and teachers have remained blissfully contemptuous of what the environment, speaking with all its turbulent voices, was telling them and they have turned out to be right.

But Tom Lupton's diagnosis is essentially correct. The real programme for the management education of any type is indeed that of linking the field of knowledge with a field of action; but it is necessarily plausible to argue that it is the field of knowledge which should mirror that of action? Is it equally plausible that it is truly the task of the academic to go ahead, to be original, and hopefully to be superior? Is that not what the rest of society essentially values the academic for? So pure research, not necessarily dissociated research, of a traditionally valued kind must continue to be somewhere near the heart of the endeavour.

The Joint Development Activity developed by John Morris at Manchester exemplifies these opportunities and risks. Nonetheless it is possible that the joint development approach has failed to become a new paradigm because the experience ultimately lacks authenticity to either side. In seeking to bridge there is a risk of denying the reality of the two separate banks. There will

continued on page 11

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Management Education

In steady pursuit of excellence

Professional management expertise is an anathema to many academics. Nevertheless, the Leverhulme Report, *Excellence in Diversity*, identifies the new challenges that institutional leaders will face during the next decade, and argues "... professional management expertise, as well as academic ability and innate leadership qualities, will be essential if institutional autonomy and consensus styles of management are to be preserved..." in institutions of higher education.

In considering the new challenges facing institutional leaders it does not appear unreasonable to assume that either any widening of access to higher education during the next decade and/or increase in the age participation rate will not be sufficient to offset the impact of demographic trends; or constraints on financial resources will limit the widening of access and/or an increase in the age participation rate, and lead either to falling real income per full time equivalent and increasing staff student ratios and/or a smaller higher education student population. Whichever assumption you favour, higher education will need to be responsive to the changing needs of a post-industrial society. The major managerial challenge is, and will continue to be, how to maintain the vitality, responsiveness and creativity of faculty when many of the pressures are working in the opposite direction. The challenge is to manage not for survival but for excellence.

All the signs indicate that pressure on institutions in recent years to justify their activities and account for their use of resources and their performance in terms of their responsiveness, effectiveness, and efficiency, not only to external funding bodies, but also to other influential groups in society, is likely to be sustained. Similarly, further consideration will have to be given within institutions to the relevance, effectiveness and efficiency of the various academic and service departments, and there will be a continuing need to make difficult decisions relating to the allocation and reallocation of a diminishing resources cake.

Managements will need a sound basis upon which to arrive at and justify such decisions to internal constituencies and external bodies. In particular, they need to further develop methods for allocating resources and for assessing the performance of the component parts of their institutions.

Within institutions there will be a continuing need to balance the pressure for increased cost efficiency in the short term with actions that need to be taken if institutions are to be effective in the long term. In this context the demands on funding bodies for a concerted effort to be made to develop and obtain agreement within institutions on their objectives and academic policy for the next decade should be welcomed. Many would argue that institutions should examine the environment in which they will be operating and attempt to identify the needs of a post-industrial, knowledge, service and information society.

Others would respond that because we cannot plan very effectively in the short term at the present time, there is little point in attempting long term planning: there are too many complexities and uncertainties.

Consideration of the trends and factors indicates that post-industrial society is likely to require a different mix of outputs and outcomes. New courses and research priorities are emerging and will continue to emerge. It may be necessary to meet the needs of new groups of participants and new patterns of attendance may be required. Some courses will face falling demand, others will disappear, while others will have to be adapted to meet changing demands of new technology. While there will be opportunities to generate alternative sources of revenue from applied research, consultancy and continuing education opportunities, many of the new development will have to be funded by redeployment of existing resources. One starting point in the process of responding to changing demands is to analyse the institution's current portfolio of courses and research programmes. Do institutions need to assess

their performance potential by evaluating their strengths in various subject areas and comparative advantages relative to other institutions, and the future attractiveness of subject areas, so as to identify priority areas for future growth, consolidation and rationalisation?

Would such analyses provide a starting point for internal discussions on the institution's long term strategy for resource mobility and for the development of departmental mission statements? Certainly decentralised structures require institutions critically to study and evaluate themselves. British universities have to find internal solutions to retrenchment and redeployment.

While developing and applying criteria for the evaluation of subject areas is a first stage in self-evaluation, this only provides a starting point from which difficult managerial judgments have to be made. The fewer the criteria the greater the gap that has to be bridged by such judgments. As the University Grants Committee has found, no matter how sophisticated and detailed the analysis the gap will remain a substantial one. A serious risk under the conditions postulated is that an institution will not be able to support existing developments and new developments in emerging areas which have high future attractiveness.

Not only will institutional managers have to initiate within their institutions studies to identify emerging growth areas, to evaluate the skills and resources required to develop in these areas, and to examine the extent to which the university currently possesses resources, but they will also have to develop strategies for resource mobility and redeployment. To enter these emerging growth areas successfully it may be necessary to break down and cross traditional departmental and faculty boundaries.

The strategy that might emerge from an evaluation of universities' subject area might distinguish between existing and emerging growth areas, consolidation areas, and withdrawal and redeployment areas. Should the agreed strategy be translated into a detailed action plan including mission statements for academic departments and units, which not only define the role of departments but also the performance measures towards which they should be striving? Do these statements provide the link between the institution's development plans and resource allocation processes? The latter have to be consistent with the development plans, if centres of excellence are to be preserved and subject area strategies implemented.

Debates in universities in response to the UGC's three scenarios exercise and Swinerton-Dyer's questions have highlighted the need to employ common building techniques and to avoid conflicts arising between the objectives, aspirations and self-perceptions of departments, schools and other faculty groups and the objectives of the institution. At the same time acceptance has to be obtained of the need for stronger central direction of the university than heads of departments and faculty have grown accustomed to.

Can you manage change and achieve resource mobility during a period when institutions are more likely to be concerned with coping with the pressures of reduced student numbers and lower provision per FTE? Will senior academics and administrators be so concerned with today's problems that they will not give adequate consideration to, and make appropriate plans to, cope with, tomorrow's problems, particularly when many will have retired before the 1990s? There is a danger that today's leaders take a pragmatic, short-term survival point of view, which may result not only in a series of marginal resource allocation decisions which are not consistent with maintaining the longer term vitality, responsiveness and creativity of the institution, but also in a reluctance to face the need to develop longer term strategies and plans and department mission statements.

As Richard Cyert has emphasised, "the manager's continuing obligation is to maintain the vitality of the organisation."



break the vicious circle which leads to disintegration of the institution, and to develop courses which will allow the university to maintain viability.

High quality managers of academic standing are who can overcome inertia. These academic managers should not only lead and control effectively the resources to see their way through the short-term financial crises, but also be able to encourage people to recognize the long-term change, and secure participation in its planning and implementation. By acceptance for phased release from some subject areas, they can release resources to new faculty and new initiatives and emerging growth areas consistent with the institution's term objectives.

They will recognize that in response to new needs of opportunities are frequently through the initiative of individuals who are to break the vicious circle. They will have to secure agreement to departmental statements that recognize the need to create an environment of resource allocation processes to be based on "fair shares for all".

To support these changes, the Department of Education and Science and funding bodies have to accept that it will be necessary to develop a more effective "structure" which will facilitate the implementation of the departmental procedures for internal implementation of the departmental programmes and the emergence of obstacles to incentives at various stages of implementation.

Thus a case can be made for appointment of high quality managers who can apply their professional management expertise to create an environment which will lead to responses to institutional selection and secure participation in strategy formulation and implementation. They should manage and survive but for excellence, recognizing that qualitative innovation and growth will need to be achieved. Their participation in decision making will need to be active, but they should also possess high tolerance for argument and controversy, and recognize that they are to capitalize on the entrepreneurship and innovativeness of faculty.

Should academics recognize rather than being an unwilling application of professional management expertise is essential to the being of themselves and their institutions, and support the Leverhulme Report proposal that a centre of higher education management policy studies be established?

John St

The author is professor of management and head of the department of management studies at the University of York. He is also chairman of the division of the OECD's Programme of Management Studies.

Management Education

Analysing the art of the possible

The process of establishing management studies as a recognized academic discipline has been fraught with numerous difficulties. Even in the United States with its very long tradition of interacting the studies in the academic environment, where expansion of university activity in this area has been quite phenomenal since the war, the arguments as to the scope and content of management studies have not abated and will probably continue a rage for many years to come.

The plethora of programmes, even the variety of titles used to describe them, is evidence of the divergence of views held on this subject. There are programmes of business administration run by powerful and popular business schools, there are programmes in operational research, in management science, in industrial management, in industrial engineering – to mention just some of the prevalent titles. They all have their own philosophies, their own emphasis on what is regarded as a relevant range of subjects that students should cover in some depth if they aspire to practise in some aspect of management during their future careers. In presenting my own personal views on this subject I do not wish to suggest that I regard other approaches as spurious or invalid; indeed, it would be a sad day when all of us have precisely the same viewpoint and run the same programmes.

A useful starting point in discussing management education is to ask questions about the management task. Management science, operational research, business administration – call it what you like – is concerned with the analysis of alternative courses of action, of planning, and of execution. It is the art of the possible and the attainable.

It should not be concerned just with what managers actually do in the course of their work, but in the main with what managers can and should do. The ability to pose penetrating questions and to solve them, the ability to create new opportunities, the ability to project and to implement – these are the attributes that we identify with the task of management.

To perform this task in a manner that would win the acclaim of dispassionate critics, managers need to have certain qualities and be equipped with various tools, and these may perhaps be conveniently grouped as follows:

- Capacity for analysis;
- Knowledge of operational methods;
- Experience;
- Personal characteristics.

First, managers must have a capacity for analysis. They need to know how to set and interpret objectives and information, how to examine their compatibility, how to define problems, how to construct a model of a system as a means of studying its behaviour, how to infer from the particular about the general, how to specify alternative courses of action.



Second, they need to have a substantive knowledge of operational methods – physical and managerial – that can be employed by the organization in pursuit of its objectives. The physical methods include, for example, the production processes by which a product can be manufactured, bearing in mind its purpose and design characteristics.

The managerial processes involve the design and use of procedures by which the activities of the company can be controlled, an understanding of the workings of administrative functions such as finance, personnel, marketing, production etc, and the means by which all these functions are integrated in the organization structure. An intimate knowledge of operational methods is therefore indispensable to managers, and by this we mean not only an insight into what such methods can do, but – equally important – what they cannot do.

And they need to have experience. The ability to draw conclusions from one situation to another, the ability to identify symptoms in any given situation – these are skills that are effectively acquired and enhanced by experience, provided of course that managers have not lost the capacity to learn from their successes and failures.

Fourth, they need to have certain personal qualities: they must be able to communicate their ideas to others, to

act on with others, to have the social skills that are needed in maintaining appropriate human relationships, to possess that quality which is so elusive to define – leadership, they must be decisive and willing to take risks, and they must be prepared to take full responsibility for their actions.

These are the skills and attributes of managers. How can an educational programme be designed to meet these needs?

In the first place we should recognize that not all these attributes can and need to be developed as a result of an educational programme. Attributes of experience and personality are particularly difficult to impart during a course of study. Experienced people can talk about the experience to students; a variety of problems and situations can be simulated through case studies, business games and other exercises; social skills in communication can certainly be developed and improved; but there are real limitations to the extent to which progress in these matters can be made.

Even with regard to such attributes as the capacity for analysis and the need for knowledge of operational methods, we must recognize the limitations of any educational programme. To enhance students' ability to analyse and solve problems, there are certain specific actions that can be taken: they can be taught methods of analysis, techniques of operational research, mathematics, the structure of models and procedures useful to employ in building them. They can be taught how to recognize significant facts of problems, how to categorize them, and how to use systematic (and often programmable) methods for solving them.

We have reason to believe that such knowledge and understanding will stand students in good stead when they face new problems, which require a fresh approach or a novel method of solution. It would seem, therefore, that in concentrating on analytical tools that are found to be relevant and applicable in solving managerial problems, we are providing effective and sufficient opportunities for an analytical capability to be developed.

One is driven to the conclusion that the purpose of an academic programme in management is not to turn out full-blooded, qualified managers. In fact it cannot be. It is naive to regard such a programme as a mere conversion facility which produces raring-to-go finished managers, ready to be slotted into an organization and to take on managerial duties; raring-to-go they may be, but whether they are finished and ready is another matter.

Samuel Eilon

The author is head of the department of management science at the Imperial College of Science and Technology.

Making sure the marriage works

continued from page 1

undoubtedly be a number of situations in which a joint development activity produces both new knowledge and solutions to real practical problems. Nonetheless if academy or client organisation wanted either knowledge *per se* or action *per se*, they would go for it directly rather than in this roundabout, risky and obscure manner. And these would turn out to be the majority of cases. What makes academics especially useful for certain types of problems of action is precisely the fact that they are not normally confronted with them.

Another attempt to link the fields of knowledge and action is the Teaching Company Scheme. This is jointly funded by the Department of Industry and the Science and Engineering Research Council. The quality of funding characterises the complexity of the endeavour. The aim of the scheme is to improve the performance of manufacturing industry by partnership between the universities and polytechnics, on the one hand, and manufacturing companies, on the other. The academics and the company form a joint board to manage specific development projects which are so designed as to lead the company into a new manufacturing technology, material, product or process. The projects are staffed by young engineers whose careers are progressed by exposing them to a broader experience than they would normally obtain in the mainstream of engineering function. They are thus forced to develop the skills and attitudes of the experienced general manager. So the projects have to have some hard technical bottom as well as some marketing or organization.

The projects seem to work rather well and the manufacturing companies seem to derive considerable benefit from participation in the scheme. So they should, because the scheme is after all quite an expensive way of getting high calibre manpower into the manufacturing sector.

The relationship is equally beneficial to the academic, but it has to be worked out. These schemes are hard work. The management and supervision is very often of a much more detailed, specific and short term nature than is supervision of postgraduate work and in that lies much of the value of the approach.

Teaching Company Programmes are long-term partnerships between academy and industrial companies committed to make substantial changes in their manufacturing.

Nonetheless the scheme represents not merely one of the most imaginative but one of the most constructive ways of improving British management. Glasgow's projects are focused on improvements in production scheduling and control, upgrading manufacturing technology, computerised manufacturing process control, project scheduling, inventory and stores, materials handling, quality assurance. The disciplines built into the Teaching

Company Scheme are essentially those of industry. Meetings are like board meetings, require proper information and reporting; control including financial control is specific and short term. This seems to have no undesirable consequences.

All British schools note a substantial increase in "small business" activities and my own department is involved in different sorts of small business programmes. Durham University Business School has been a leader in this genre. Moreover several schools including Bath University and Hatfield Polytechnic have developed Teaching Company Programmes for groups of small companies.

Not that the Teaching Company, any more than any other fashionable approach, represents anything more than an additional weapon in the armoury. It does I believe hold the conception of a phase in management development in the United Kingdom which is likely to be dull but desirable. After the honeymoon and the uncertainties of alternative life style, trial separation and estate reconsummation, both industry and academy have to make their marriage work. The current situation in management education in the United Kingdom is that we are just starting to believe in the possibility that this will happen and will not go away.

The author is professor in the Department of Management Studies in Glasgow University.

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Management Education

BOOK REVIEWS

Specialist insights

Perspectives on Management: a multidisciplinary analysis
edited by Michael J. Earl
Oxford University Press, £15.00
ISBN 0 19 827257 X

Perspectives on Management is introduced as a contribution to the coming of age of management studies, where a wider political and social approach is taken to public and private sector management. Academics from a range of disciplines provide a varied assembly of scholarly essays on the theme of management.

The collection opens with a thoughtful contribution from Alan Fox, who argues that Britain's present economic predicament must be seen in the light of a history of individualism and instrumental collectivism shaping management-worker relations. Descriptions as inefficient, backward looking, class ridden, complacent and insular are but one side of a coin. The

other reveals Britain's qualities as moderate, orderly, decent, peaceful and tolerant and constitutional. Fox provides no answers to Britain's predicament but offers a framework of analysis, rooted in history, for judging the likely success of different strategies.

Continuing the theme of historical analysis as a window for viewing present economic problems, Peter Mathias maintains that the role of entrepreneurship in economic development must be examined in its cultural and institutional context. He urges economic historians to borrow from anthropologists a structural approach to take them beyond analyses rooted in economic relationships.

The call for disciplines to extend their approach is reiterated in Donald Hay's discussion of management and economic performance, confining the theme of managerial responsibility for economic failures. Examining managerial behaviour through the theory of the firm, he concludes that economists need to relinquish their "black box" approach to the firm and look at the internal processes. Like Mathias, Hay considers that his discipline needs the tools of other social sciences in order to pursue this perspective.

Rosemary Stewart's succinct contribution on managers actually does describe what managers actually do in the course of their working day. Challenging the traditional view of manage-

rial work as the rational, planned pursuit of organizational goals, she shows that a manager's working day is essentially fragmented and managerial behaviour reactive and instinctive. The more senior the manager, the greater the need for the political skills of trading, bargaining and compromise.

A contrasting perspective on management is offered by the editor's analysis of the role of accountants in organizations as "protectors", "pre-fectors", "pivots" and "puzzles". He outlines the implications of these diverse roles for the education and training of accountants. Bob Tricker then examines the ways in which companies are governed and made responsive to legitimate interests. His alternative conceptual framework of corporate governance focuses on the activities and underlying ideas involved, rather than the structures, as an approach for improving the direction and top management of business.

Turning from the private to the public arena, Nevil Johnson argues that management has replaced administration in government, although in some ways this is old wine in new bottles. He outlines significant differences between private and public organizations and emphasizes the importance of the professional ethic of public service. The book draws to a close with Dan Fowler and Karen Legge's refreshing perspective on the oral tradition of management. They explore the rhetoric of bureaucratic control in the meaning of management and the management of meaning.

The imagination and interest of the reader is stretched by these varied contributions. They are, however, firmly rooted in the British context and some cross-cultural comparisons would have been welcome. This and other limitations, like the absence of a contribution from a political scientist, are acknowledged by the editor. One volume can, of course, only provide a selection from a range of possible disciplinary perspectives and readers may well be content to follow Earl's request for the book to be judged on the distinctiveness of the contributions it does contain. Given the specialized, often lengthy and densely argued form of the essays, more editorial commentary with linking themes would have opened up the book to a wider, less specialist readership. (The omission of an index is both surprising and regrettable). As it is, it is a book by scholars for scholars and may fail to grip the attention of practising managers. This is a pity, given the insights of many of the essays.

Gloria Lee

Dr Lee is lecturer in organisational behaviour at the Management Centre, University of Aston.

Numerate approach

The Management Barrier
by Graham Tarr
Macmillan, £20.00
ISBN 0 333 35133 9

The author contends that there is a barrier between the manager and the analyst, the existence of which constitutes one of the key causes of industrial inefficiency. The book's aim is to help lower that barrier. While in formal terms the message is addressed to both in practice the manager and the analyst, weight of content are directed almost entirely towards the former.

Graham Tarr is a senior United Nations advisor and a former management consultant. In this book he adopts the role of post-war turned manager to maintain a healthy scepticism in the face of scientific evangelism. At the same time, the work is intended to be thoroughly practical and indeed a kit-of-parts manual, with which to confront a complex, specialist-ridden world. Given this remit, the book has theoretical interpretations of management competence or incompetence, in the mode of Alistair MacIntyre's *After Virtue*, survey and analysis management in the Henry Mintzberg manner. It is more akin to the work of Peter

Graham Barlow

Dr Barlow is senior tutor at the Manchester Business School.

Innovative buying

Corporate Innovation: marketing and strategy
by Gordon R. Foxall
Croom Helm, £19.95 and £9.95
ISBN 0 7099 1020 7 and 1047 9

Gordon Foxall approaches the topic of innovation from the perspective of "the role of customer-oriented business strategy in the process of new product development" and claims that the book's relevance stems principally from considerations of marketing strategy. Thus the reader may find the coverage less wide-ranging than the main title indicates.

Foxall believes that "the critical study of the innovative process is likely to result in a more accurate conception of the difficulties involved and the appropriate managerial response in each case". The manager well knows from his own experience that in real life analysis is usually only partial, and available information insufficient. This choice and judgment become crucial ingredients in ultimate success or failure. New methods of analysis, or approaches to choice, can support judgment but not replace it. The manager will thus look at Foxall's book for new insights and is likely to find more on the conception of the difficulties and rather less help with the appropriate responses. Researchers or students of innovation may find the extensive and well-written survey of previous academic contributions of value, but Foxall's treatment offers no great novelty and there are equally good approaches available elsewhere which do not confine themselves to the marketing strategy perspective. The

author does not make clear, however, for which the book was intended and indeed this is hard to see.

The book has three main sections on effective innovation, on buying and new product development. If there is a particular value in treatment it is the authors' thorough review of buying behaviour and the adoption and diffusion of innovation, alongside the conventional treatments of innovation as a strategic process in the business lessons that can be drawn from product development. But the section on buying behaviour, and strategy, is thin. Foxall ends with a section on "marketing, innovation, and strategy". This, rather than additional issues about the nature of innovation, makes strategic decisions that are central to the problem of innovation. But the listing of a plea for further research and anything to detract from what has been achieved with the sections.

The book is certainly readable, each chapter ends with a search of references. Suggest for further reading are somewhat limited, and are perhaps weakened by strategic management area. There is very disappointing. Foxall wants to make a case for a greater understanding of the complexities of the new product development process in the firm, and to make the nature of innovation and the process which produces it. Yet this point would surely be accepted by many other authors have made more comprehensive job of it.

Paul Jervis

Paul Jervis is a fellow of the Open Centre for Management Studies.



An office machines class at the Kellogg Graduate School of Management, Northwestern University in 1953, a picture from *The Evolution of Management Education* by M. W. Sedlak and H. F. Williamson (Harper & Row, £12.75).

Drucker; in no sense a textbook, it is essentially a work that invites a measured read rather than a close study. Adopting a very practical mission and a somewhat journalistic style, Tarr ranges over the issues of numeracy "not numbers" but a "way of introducing a disciplined and reasonably complete range to what we are trying to achieve" - systems thinking, communication, problem formulation, problem-solving techniques and how to manage a problem-solving project. There is a certain arbitrariness in the issues tackled but two central and more or less continuous threads. These turn first on the managerial task of coping with and appropriately harnessing numerate techniques, and second on the problem of communicating effectively with the numerate specialist. To a degree, it is the line-staff issue revisited.

The book has a number of merits. Tarr makes a sober and realistic assessment of the role of numeracy in business analysis. He tackles an important problem with a lively and very readable style. A rational, balanced case is argued and along the way a number of managerial myths such as the Peter Principle and Murphy's Law are efficiently scythed. The managerial practitioner and the business student will find in this book a practical specialist, numerate techniques, can make in business analysis, while at the same time understanding the limits of such approaches. That seems to me to be a worthy aim, and more so for a book of this kind.

John Storey

Dr Storey is a senior lecturer in the department of business studies at the Polytechnic.

BOOK REVIEWS

Under the pressures of work

Stress and the Woman Manager
by Marilyn Davidson and Gary Cooper
Martin Robertson, £12.50
ISBN 0 85520 623 3

The male-dominated world of management is highly stressful to an increasing number of women who are entering it. This book is based on a large-scale survey of men and women managers across a wide range of companies and industries in the UK with the primary purpose of examining the nature and pattern of differences in response between the sexes to stress at work.

The sources of stress arise either from the work situation or from conflicts engendered by the need to reconcile home and work environments. Work stresses are identified by the authors not only as those intrinsic to the job itself, and those that derive from sex-stereotyping at the factory/office level, but also those pressures inherent in the ambivalent role of a woman manager at an organizational level. Comparisons between a sample of men and women managers show interesting differences in their demographic profiles, in the factors which contribute to stress and in coping strategies, both of positive and detrimental nature, adopted by each sex.

On the average, women managers tended to be slightly older than their male counterparts, were less likely to be married (often having a history of broken marriages) and had smaller families containing post-school children. Stress among women managers was usually associated with their dual role at work and in their families, or resulted from the insecurity of their "self-image" in a managerial environment. Male managers, who had in general higher aspirations than their female counterparts, identified dissatisfaction with career development, remuneration and similar work-related factors as the main contributing factors to stress. In coping with stress, women managers were more likely to discuss their problems with "someone they know" or use relaxation techniques such as meditation, and less likely to escape temporarily from the work environment or drown their sorrows in alcohol than the male managers. Finally, the outcomes of stress showed women managers "suffer four unique psychosomatic ill-health symptoms not shared by male managers: nervousness; tenseness; tiredness and difficulty in getting up in the mornings; and often wanting to be left alone."

Recommendations for control or elimination of work stress include self-awareness and interpersonal skills training for each sex, mixed male and female management courses to "sensitize" each other to the problems of working together, and the detection of a high (stress) risk profile. The main thrust of this book is unequivocal and could, with some minor modification, be extended to include not only women managers but

Search for principles

The Principles and Practice of Management (third edition)
edited by E. F. L. Brech
Longman, £18.50
ISBN 0 582 29648 X

The most recent offering of this well-known text on management is a paperback version of the third edition, originally published in 1975.

The overall approach is characterized early on by the advocacy of the continued search for generally applicable management principles and can thus be clearly identified with that body of "wisdom and theory" that has sometimes been labelled as "classical".

Management Education

Power and efficiency

Organization: a guide to problems and practice (second edition)
by John Child
Harper & Row, £5.95
ISBN 0 06 318725 1

This new edition of John Child's *Organization* is intended, as before, as an introduction to the problematic business of designing organization structures. It is a sophisticated book, by someone who is both willing and able to confront the complexities of organization, and to ponder the dilemmas and uncertainties that go with them.

Child has aimed to provide a guide for the analysis of practical organizational problems as well as a more general appreciation of organizational issues. How should jobs be designed? Should the organization have many levels or few? If work is divided into specialized compartments, how should they be integrated? How should an organization be arranged so as to cope best with many conflicting pressures? Or rather how could these problems be solved, because Child emphasizes the choices and alternatives that are available at every turn. For Child, being practical does not mean resorting to recipes and formulas. It means abandoning them.

Naturally, a good deal of the material appears in much the same form as in the first edition. The chapters on the shape of organization, integration and control are mostly as before, although some new sections have been added and the reading lists have been brought up to date throughout. Much of the chapter on job design and work structures is new, and the one on reward policies entirely so. The latter is a fairly straightforward review of motivation theory and alternative approaches to the design of payment

systems. The last part of the book, on organizational change, provides the most substantial new material. A chapter is devoted to a discussion of the implications of micro-electronics and information technology for management and organization, which could be far-reaching - if the alternatives which new technology makes possible are taken up. As well as examining these, Child refers to the results of some of the most recent research on the effects of new technology applications, and concludes that technology, in micro-electronic guise, is now the major factor which must be dealt with by those who design organizations.

On a more theoretical note, Child introduces the "political contingency approach" as a distinctive orientation to organizational design. Unlike the well-established "task-contingency approach", which emphasizes efficiency as the only respectable criterion of choice among organizational alternatives, this view points to power as the final arbiter. The organizations which surround us are what they are partly because powerful groups and individuals prefer them to be that way. As a useful discussion of that crucial organizational conundrum "effectiveness" suggests, organizational arrangements which are unpalatable to the powerful may well be rejected despite the contribution they might otherwise make to the organization's performance. Organizational design is therefore both a technical and a political activity.

One deficiency is that this edition has a rather less convivial feel than the first. The warm red cover has gone to a cooler blue, the typeface has thinned and the material is still rather densely packed. But this should not deter anyone. *Organization* is certainly one of the best books of its kind.

Alan B. Thomas

Dr Thomas is lecturer in sociology and organizational behaviour at the Manchester Business School.

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by A. N. Welsh
Gower, £5.95
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by Satoshi Kamata
Allen & Unwin, £9.95 and £2.95
ISBN 0 04 338106 5 and 004 338111 1

Management and the Organization
by Shaun Gregson and Frank Livesey
William Heinemann, £8.95
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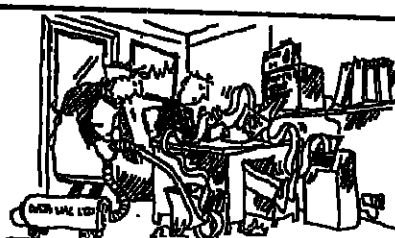
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BUSINESS AND TECHNICIAN EDUCATION

On 2nd March this year, *The Times Higher Education Supplement* published an 8 page feature on business and technician education. Among the contributors to this report are Mr H. N. Raine, Chairman of the Business and Technician Education Council, Sir Robert Telford, Chairman of Marconi, and Dr George Tolley, newly appointed Head of Quality at the Manpower Services Commission.

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Management Education Breaking down the barriers

Sir Douglas Hague, the chairman of the Economic and Social Research Council, in delivering the Mond Lecture at Manchester University recently, drew attention to a failure in our management education in coming to terms with the information revolution and the issue surrounding the pace of technological change. "When it comes to understanding how to integrate manufacturing - and also science - into the business and to identify the appropriate technology for its systems there is a danger that British business schools will actually be left behind their clients," he went on to suggest that business schools and engineering departments should come together to resolve some of the problems this poses.

It has, I suggest, been apparent for some years to those of us with responsibility for coordinating our institution's responses to industry's needs that we have only offered partial and often inadequate solutions to our industrial clients. This is because we have either failed to recognize the interdisciplinary nature of so many of the problems faced by management or more likely that, having recognized the need because of the compartmentalised and departmentalized nature of the organization of our academic resource base.

A journal article I read recently with the title "Industry has problems, colleges have departments" made the point rather nicely.

The constraints imposed by the barriers we draw round our subject or discipline-based departments apply with equal force to our management schools when it comes to the integration of their resources to those available in our computer science, science and engineering schools.

It does not have to be so and in this article I will describe a model for management education, training and development which I believe could well be of value in meeting the challenges of the 1980s and 1990s.

The South West Regional Management Centre, based on Bristol Polytechnic and working with a network of over 30 colleges in the seven counties of the region, was one of 12 such centres designated by the Department of Education and Science following an initiative taken by the department in 1971 to establish major management schools with regional responsibilities.

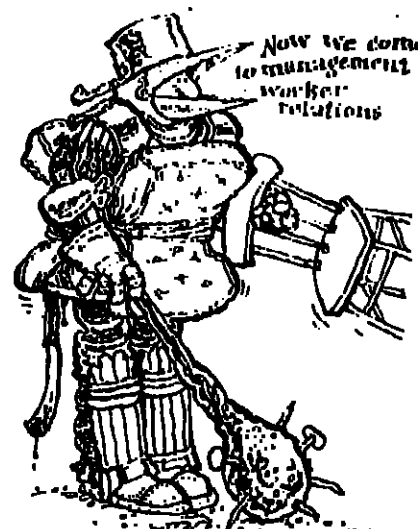
The centre has become the industrial arm of the polytechnic

The terms of reference of regional management centres were set out in the following four principal functions:

- To be the point of further growth in the region of full time high level work;
- To operate as wide as possible a range of courses of various types, patterns and levels;
- To act as a resource centre for the further education management education effort of the region;
- To develop links with industry and commerce in the region, not only for liaison over the provision of courses and teaching services but also for the purpose of contributing by whatever means present themselves to the effectiveness of practical management within firms.

As the South West Regional Management Centre developed over the years, it became apparent that while depending primarily on the management departments to meet its objectives, there was an increasing reliance on the work of other departments, most notably business studies, engineering and computer studies and mathematics.

This could not be explained in terms of traditional servicing inputs from these or other subject or discipline-based polytechnic departments, or law, economics, accounting and finance but rather because the intrinsic nature of the training needs of management was changing. It was becoming an interdisciplinary rather than multidisciplinary activity and this process was being increasingly recognized by the



inputs.

This need and with it the role of regional management centres was recognized in a major policy speech given by the then minister of state for higher education at Church House, Westminster in December 1976.

"First, a regional management centre is seen as providing a network of resources in its region; second, a regional management centre should be a resource centre, acting as a focal point for research teams. It should coordinate staff working on the development of new programmes, be able to undertake appropriate consultancy services for industry, and plan a prospectus of relevant short courses, including residential ones."

"Third, to provide this kind of comprehensive service, regional management centres need to draw on the skills of staff experienced at all levels of management."

"Fourth, a regional management centre is ideally placed to act as a catalyst in inter-industry exchange and liaison, standing as it does at the heart of a network through which flows a wide range of experience from all parts of its region's industrial and commercial life."

"And finally, arising organically from this range of functions, a regional management centre ought to be able to make a solid contribution to mutual understanding, and thereby give a much-needed boost to efficiency."

The significance of this evolution in the role and character of the South West Regional Management Centre has enabled the centre to become the industrial arm of the polytechnic, pulling together resources from across the discipline or subject-based departments to meet defined industrial need. The proprietorship of the centre has necessarily shifted therefore from the management department to the institution as a whole, working in collaboration with its regional higher education and further education colleges. Clearly the management department of the polytechnic and management departments in regional colleges have a significant contribution to make to the services we are able to offer industrial clients, but increasingly as a component of an integrated provision.

There is, I believe, sufficient evidence to suggest that this model does work in practice. We are still in the early days of understanding the exact nature and full potential of the centre we have created, but the early signs are promising. Within the past two years has been established two Science and Engineering Research Council-funded research schemes whose success has depended on the integration of academic support services from the department of management, computer studies and mathematics, and engineering.

The first scheme, established with the Bracknell division of the British Aerospace Dynamics Group, has enabled the graduates as associates of the programme to embrace projects, configuration and monitoring techniques, data interpretation and the design/manufacturing interface.

The second scheme involves us in working with a consortium of small firms in the northern part of our region and draws significantly on a staff team drawn from a number of departments.

In like fashion the centre is in the process of following a major Open Tech contract concerned with learning packages for technicians working for the subject specialists in the polytechnic departments, one of which, the inter-regional management centre at Somerset at Bridgwater, deliver its own programme of the adaptation of the curriculum for the initial phase.

A major training of the Service Commission and the Development Centre for the Senior Staff in schools, in collaboration with the University of Strathclyde, the Department of Education and Science, drew on the same principle of co-operation between institutions and across subject areas.

Additionally, a number of subjects are in the process of being negotiated. These include: park development, where we are offering organizations broad park comprehensive technology services supporting the development and the exploitation of the product, as tapping postgraduate staff research activities, a development will necessarily a comprehensive range of support services from one institution.

The concept of regional management centres has relevance today

A collaborative agreement with new neighbours, the Health Organisation, which combines its resources with working together with a wide range of joint projects, is another approach to inter-institutional collaboration which we are exploiting in discussions with the industrial client.

The mechanism we have developed for managing this work is a broad formation of project management teams with membership drawn from the polytechnic, the health organisation and the industrial client. In managing these complex projects it does seem that the highly relevant to that industry, multi-disciplinary approach, which we have been developing, through the successful negotiation of these projects. The major link between them involves external funding activities, to further £250,000 of such a negotiation.

I would wish to stress however, while income generated is of importance in today's world, the importance in today's world of the benefit we can gain from activities of an equal importance to the industrial client.

Professor John Kingman, Chairman of the Science and Engineering Research Council, in a recent address to the Careers Research and Advisory Conference at Cambridge, stressed the importance of higher education, and the need for staff engaged in higher education to be concerned with "activity" which could be described as consultancy or project practice.

There can be fewer more staff development opportunities to engage with an industrial client, delivering programmes of the kind we have outlined above, under and within a specific time scale, than that of a range of related services should have a regional dimension in its critical importance. A complete range of initiatives being carried out by Government departments, central agencies and research bodies, essentially a regional focus, the MSC, the Department of Education and Science, the Department of Industry, the SERC, the Group and the SERC, the

continued on page VI

Management Education A suitable case for treatment

Students may accept that case histories are a recognized aid to learning, but many remain sceptical about the value of what they are expected to learn. This obstacle is caused by presenting single cases on different topics, when industry is presented as a series of widely varied situations with few common strands.

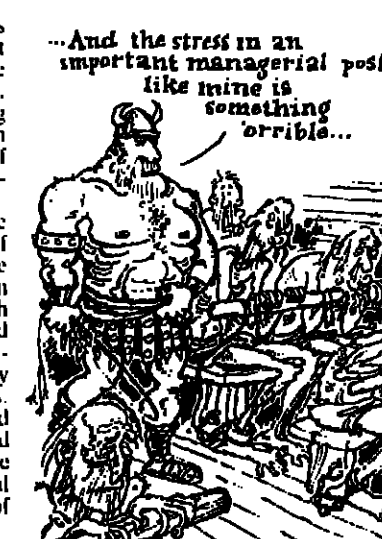
It is suggested therefore that a case method be adopted in which a series of firms is studied with reference to one particular subject. The student then will see a wide canvas rich with variations on a central objective, and will instinctively seek concepts to explain why companies employ apparently contrasting approaches. With care, this curiosity can be guided to the formulation of theories and concepts supported by a confidence that they are based on one industrial problem rather than upon a series of unrelated situations.

There is a wide choice of themes. If, for example, it was required to study diversification, case histories could be selected of companies with recent experience with one or more of the following: sub-contracting, research and development, mergers, formation of a conglomerate, joint venturing, or management buy-outs. Or, alternatively, if an earlier phase in a company's growth was selected - for example, raising finance - inquiries would be directed towards finding four firms each of which had raised funds either by equity financing from merchant banks and other institutions, by raising loans or making credit arrangements with clearing banks, obtaining capital from existing stockholders from a right issue, or by generating funds internally.

To give practical expression to this concept, studies on the theme of "The management of technological innovation" were carried out in a number of companies at the suggestion of the "Creativity and Innovation" Committee. This subject was regarded to be of outstanding importance if the manufacturing industries were to climb out of the recession. Furthermore, despite a wealth of literature on this subject, no indication was found whereby the nature and degree of innovation could be usefully classified.

The first two companies chosen for the study were a manufacturer of cake decorations, representing low technology, and the second was concerned with sophisticated medical instruments and represented high technology. A further six companies were chosen to span, in as graduated a manner as possible, the above two extremes. The reference to these cases is PARKER, R. C., 1982, 'The Management of Innovation', John Wiley & Sons, Chichester.

In order that the studies, from which the cases were to be constructed, could proceed smoothly, permission was sought from each chief executive concerned. Wholehearted support and enthusiasm was forthcoming in all instances, from which it was evident that the importance of technological innovation was widely recognized. To find whether staff's perception of



this company differed, two company profiles were constructed. The first was based on discussion with each executive in turn, and the second on interviews with managers of each function. Evidence of fundamentally different views of company climate, the environment and the general operation of the company, usually signalled a difficult, but fruitful study. Information was also sought on the history of the films, since this gave a basis from which a better understanding of the observed situation was gained. Most cases were based on longitudinal studies of up to two years' duration; company meetings were attended regularly, and, inevitably, some degree of participation was involved.

To minimize personal subjective judgments, several industrialists were invited to share interviews, and the basis of selection was their ability to recognize the emotional and stressful demands of a manufacturing environment, without which cases could not easily be written as a narrative with its inevitable drama, surprise, and moments of excitement.

In several instances, the first drafts of the cases, based on a succession of visit reports, were written by members of the Creativity and Innovation Committee who had not been involved in interviews. The early material, at least, was thus free from the influence of any personal relationships which might have developed during the study. The final report was written by the author to present readers with a uniform presentation and style. The cases were presented in a form which enabled them to be readily revitalized by obtaining copies of annual company reports, newspaper clippings, and other relevant leaflets.

Because the interested series of cases were required to stimulate imagination, particular care was taken to describe the industrial scene in its totality and to avoid drawing attention to specific management precepts. The different levels of technology enabled students to begin with a single case at a low level, and progress to high levels as their understanding advanced. Explanations can then be sought for

the differing aspects of innovation among companies, in the belief that this will lead to ideas for designating particular levels of technology.

Many other instructive tasks could be suggested. One could be to seek evidence that a hierarchical organization, established to promote efficient manufacture and sales, is inimical to innovation. Another could be concerned to demonstrate that entrepreneurial demands change throughout a company and thereby causes stress.

To achieve the final goal, the exercise of insight, a student may be asked to devise a classification system for technological innovation which would serve as a prescriptive instrument. To give added purpose to the above uses of the cases, a student could be asked to formulate his classification on five of the cases, and use the sixth to check the validity of his model.

The book referred to above contains the author's suggestions for designatory levels of technology, together with a model for industrial technological innovation.

Reference to the early use of the term "case" explains why its use in business courses is sometimes questioned. The word case has been used in the legal profession for over 300 years to describe the statements on the facts of a situation which has already been decided and can subsequently be cited. The connotation is one of authority.

The medical use of the term "case" became common approximately 100 years later when it was used to describe the observed condition of a disease. The diagnosis of a case was regarded as an *obiter dictum*, although, as science advances, the authoritarian stance becomes less sustainable. A medical case history usually comprises the personal history of a patient, together with any other relevant information that can be obtained, and a description of clinical systems. The purpose is then to make a diagnosis and suggest remedies. This end-point of embodying a prescriptive judgment has no parallel in law.

Students of business are denied the support of authority, the value of prescriptive judgments, and a framework of verifiable precepts. Fortunately, however, a student's enthusiasm can be aroused by asking him to construct a model based on several cases that will unify the perceived behaviour of a group of individual companies. The challenge will be seen as an exciting one and sufficiently difficult to stretch the student's imagination. A probably additional spin-off will be to foster close cooperation between student and teacher.

The case histories, being fuller and longer than is customary, will make considerable demands on a student's time. The academic advantage of a broad approach will outweigh this difficulty, and will also justify the time needed to find suitable companies willing to host studies of specific issues.

In conclusion, I am greatly indebted to Dr George Hayward of Anglian Regional Management Centre who gave valuable guidance on the writing of teacher's notes, and whose use of the case gave rise to this article.

Charles Parker

The author is senior research fellow, at Ashbridge Management College, Hertfordshire.

Breaking down the institutional barriers

continued from page VI
regional broker schemes have placed great emphasis on the provision of regional services to meet identified industrial needs.

We foresee that the drive towards creating more open access arrangements for managers and supervisors to benefit from education and training services, using a wide variety of modes of attendance and learning patterns, will need to be reinforced through powerful regional delivery, dissemination and quality control arrangements.

The concept of the regional management centre, embracing as it does the principle of collaboration between providing institutions working in partnership with industry, is of greater relevance today than when centres were established in the early 1970s.

With their strong commitment to part-time and short course activity and a growing involvement in applied research and consultancy, regional management centres are well placed to take advantage of a wide range of

opportunities. The ongoing debate on demographic trends and the numbers of those at 18 plus seeking initial higher education has dominated the discussion on the role of higher education at the expense of a due consideration of the importance of the large commitment our management centres have to the needs of practising managers and their organizations. The University Grants Committee report on continuing education and the work of the National Advisory Body's continuing education working party has served, in recent months, to redress this imbalance.

There may well be those who see what I have written as constituting a criticism of the contribution management schools make through their existing provision to the well being of our industrial economy. This is not my intention. There will always be the need to provide from within the traditional subject-based departments of higher education (and further education institutions a range of services to

meet the education and training needs of managers.

I am suggesting however that there is a growing, largely untapped market for services of a multidisciplinary character which cannot be met satisfactorily through management schools as they are currently staffed or through the conventional servicing arrangements between departments. These knowledge and understanding drawn from across the academic institutions and client organizations.

With a little foresight and the exercise of some measure of political skill we can still achieve the vision of those, who in the early 1970s, saw regional centres as being of crucial importance as a support to the process of industrial regeneration.

Peter Holmes

The author is assistant director (regional liaison) at Bristol Polytechnic.

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This volume aims to illustrate and synthesize the different principles that lie within the various approaches regarding repulsive relationships. It concentrates on two main themes: first, the importance of relationships as a key system; second, the possibility of repulsing changeover towards two relationships.

D. E. Blackman is professor psychology at University College, Oxford.

Applications are invited for the following appointments, funded under the UGC's 'New Blood' initiative. The posts are available from 1st October, 1984, and in addition to the salary for each post, the UGC award makes some provision for research and other costs. Candidates should normally be aged 35 years or under.

Further particulars of the post may be obtained from the Registrar.

Application forms and further particulars may be obtained from the Registrar, The University, P. O. Box 147, Liverpool, L69 8BX, to whom completed forms should be received not later than 17 May 1984. Quote Ref: BU/77A/TH/2.

UNIVERSITY OF STRATHCLYDE
Faculty of Engineering

Further particulars and application forms (please quote relevant reference number) are available from Staff Office, McCance Building, 15 Richmond Street, Glasgow G1 1XG.

**MECHANICAL
ENGINEERING**

Applications are invited for the post of Lecturer in the Department of Mechanical Engineering, University of Ulster, under the UGC 'New Blood' initiative and tenable from October, 1984. Candidates should normally be aged 35 or under on appointment. Persons holding permanent university appointments in the UK of whatever kind, are not eligible for appointment.

Detailed applications (three copies) giving full particulars of qualifications and experience of three referees should be sent as soon as possible to the Registrar, Ulster, Kingston 7, Jamaica, West Indies. Applicants in the U.K. should send a copy to the Assistant Secretary, Association of Commonwealth Universities, 36 Gordon Square, London WC1H 0PF. Further details obtainable from the above.

(1459)

Applicants are requested to send full curriculum vitae and the names of two referees to:

Dr. Robert E. Kuehn
Academic Dean,
Richmond College,
Queen's Road,
Richmond,
Surrey TW9 4JF

The deadline for applications is 11th May 1994

Particulars and application forms (returnable by May 4, 1994) from the Registrar, The University, Manchester M13 9PL. Please quote the appropriate reference.

Further particulars are available from the Academic Registrar (LFG), University of Surrey, Guildford, Surrey, GU2 5XH, or telephone Guildford 571281 ext 833. Applications from men and women, in the form of a curriculum vitae, including the names and addresses of three referees, should be sent to the same address by 31 May 1984 quoting reference 257/THES.

12 copies of all applications (one from overseas candidates) should be sent marked "Appointment - Strictly Private and Confidential" to the Vice-Chancellor by 5th May, 1984.

Applied Mathematics

All the appointments are from 1 October 1984.
Current salary scale £7,190 to £14,125 p.a.
Further particulars for each post and application forms (2 copies) are
available from the Personnel Officer, University of Reading,
Whiteknights, Reading, RG2 2AH, Tel: (0734) 878123 ext. 220. Please
return this ad. to the Personnel Office 11th May 1984.

● **Biological Sciences**
The appointment is in the Plant Biochemistry Research Group, and is open to persons suitably qualified in biochemistry, genetics or related subjects interested in applying modern biochemical techniques, especially recombinant DNA technology, to study the expression of genes for organellar proteins and to produce mutant forms of toxic and allergenic plant proteins.

● **Chemistry and Molecular Sciences**
In the field of Physical Chemistry and Chemical Instrumentation. Applicants should have experience in experimental electrochemistry, preferably in the areas of energy storage or selective electrodes, and should have an interest in the applications of microprocessors and microcomputers in chemical instrumentation. Ref: NB/2/84

● **Industrial and Business Studies (Industrial Relations)**
The appointment is to develop a programme of research and scholarship on the impact of industrial relations on national economic performance. As well as participating in a range of industrial relations courses, the person appointed will make a contribution to the teaching of labour economics.

● **Mathematics (Pure)**
For this appointment preference will be given to candidates in
Algebraic Geometry. Ref: NB/4/84

● **Philosophy (with special reference to Philosophy's relation to Literature)**
For this appointment candidates should be multi-lingual, historically well-informed, and with an extensive knowledge, both of the analytic tradition of philosophy, and of literary theory and practice in the English-speaking world and in Germany and France. The person appointed will be expected to explore the relationships between philosophy and literature in their historical context.

● **Physics**
In the field of computational solid state physics in the broadest sense. Current large-scale computational work includes surface physics, semiconductor physics and device physics. The experimental programme includes Compton scattering studies, electron density, surface physics, disordered solids, microstructure, liquids and interfaces, ion transport and nmr. Applications from people interested in other related areas are also welcome.
Ref: NB/6/85

Salary for all posts will be on the Lecturer Scale £7,190 - £14,000 per annum. Application forms and further particulars from the Registrar, University of Warwick, Coventry, CV4 7AL. Closing date for receipt of application forms is 11th May 1984. Please quote the appropriate reference in all correspondence.

UNIVERSITY
OF WARWICK

University of Essex (University of London Birkbeck College and

Department of Physics
"NEW BLOOD"
LECTURESHIP IN
NON-LINEAR OPTICS
 Applications are invited for
 the above post, which has

been established under the 'New Blood' scheme, for appointment from 1st October 1984.

Salary on the Lecturer scale: £1,190-£14,125 (under review). Candidates should not hold a permanent job, nor hold a permanent university appointment.

remote sensing, to jointly in the national departments of geology, Birkbeck and UCL. The research is intended to extend the research and to develop extensive and diverse facilities created by the research team.

Preference will be given to experimental physicists with research interests in coherent nonlinear optics.

Applications (ten copies), including a curriculum vitae and the names and addresses of three referees, should be sent to the Secretary (Theoretical Physics), Blackett Laboratory, Imperial College, 75, St. James's Street, London SW7 2BZ.

of three referees, should reach the Registrar (AG/189/7358), University of Essex, Wivenhoe Park, Colchester CO4 3SQ, from whom further particulars may be obtained, by 4th May 1984. HI

University of Essex
Department of Language and Linguistics

LECTURESHIP IN COGNITIVE PSYCHO-

English Department
Applications are invited to the post of Lecturer in Cognitive Psychology. The successful candidate will be responsible for the teaching of the subject to students on the B.A. (Hons) in Psychology and the B.A. (Hons) in Psychology and Linguistics. The post is for one year, to be filled from 1 October, 1981. The salary will be in the range of £10,000 to £12,000 per annum, depending on qualifications and experience. The post is full-time, with a normal working day of 9.00 a.m. to 5.00 p.m. The successful candidate will be expected to contribute to the development of the Department and to the University as a whole. The post is open to applications from both men and women. Applications should be sent to the Director of the Department of Language and Linguistics, University of Essex, Wivenhoe Park, Saffron Walden, Essex, CB10 3RU. Applications should be accompanied by a curriculum vitae, a list of references, and a statement of salary requirements. The closing date for applications is 15 June 1981. Applications received after this date will only be considered if they are accompanied by a statement of the reasons for the delay.

TEMPORAL LECTURES
(from 1 October, 1981)
one year, to be filled from 1 October, 1981.

**COGNITIVE PSYCHO-
LINGUISTICS**

Applications are invited for the new Chair which has been established under the 'New Blood' scheme, for appointment from 1st October 1984.

teaching 20th Century Literature, though teaching of earlier periods also required.

Appointment will be lower end of the scale (£7,195-£11,185 London Area).

Salary of the Lecturer scale: £7,190-£14,125 (under review). Candidates should not normally be older than 35 nor hold a permanent university appointment in the UK.

The appointee will be expected to contribute both to the teaching and to the research programme.

Department of Educational
Applications are invited from
three posts

TUTOR
Tenable for one year
1st September or 1st
1984. The salary

Applications (ten copies), including a curriculum vitae and names and addresses of three referees, should reach the Registrar (AQ/88/TH2B), University of Essex, Wivenhoe Park, Colchester

1. The following information was obtained from the file of the
 2.

Universities continued

Cranfield

Chair in Information Technology

Applications are invited for the post of Professor and Head of Cranfield's School of Information Technology. The Institute plans to develop further advanced work in the field of Information Technology, through research, design and postgraduate teaching. The school will be the main focus of these activities at Cranfield and the existing links with industry will need to be extended.

The Head of this new School will be encouraged both to build on an existing base in electronic systems design, control engineering, applied computing and mathematics and to expand and develop the School's activities in such fields as telecommunications and software engineering.

The Professor's own specialisation could be in any of the above areas. In making the appointment, weight will be given to both industrial achievements and academic distinction. Closing date for applications: 30 April 1984. Further particulars may be obtained from: The Personnel Officer, Cranfield Institute of Technology, Cranfield, Bedford MK43 0AL. Tel: Bedford (0234) 750111 ext. 3336.

ARTIST IN RESIDENCE CAMBRIDGE

Applications are invited for the post of Artist in Residence at Churchill College Cambridge and Kettle's Yard Gallery with financial assistance from the Arts Council of Great Britain. Tenable for one year from October 1984.

A stipend of £8,000 a year, a studio, accommodation and Senior Commissioning Room rights are provided.

Further details from the Curator, Kettle's Yard Gallery, Northampton Square, Cambridge CB3 0AQ. (0223) 352124. Closing date for applications 21 May.

University of Glasgow

Department of Community Medicine

SENIOR LECTURESHIP IN BEHAVIOURAL SCIENCES

A new Behavioural Sciences Group has been formed in the Faculty of Medicine, University of Glasgow, to develop research in the field of community medicine. The group will be based within the University Department of Community Medicine which is at present located within the Royal Infirmary but will move to new premises in the University Department of Community Medicine in the near future. The group will be responsible for the development of the community medicine curriculum and for the provision of research facilities in the field of community medicine.

The Senior Lecturer is trained as a Clinical Psychologist, and has a background in research in the field of community medicine.

Salary will be on the University scale for Non-consultant posts, currently £15,100-£21,100 p.a. depending on experience and qualifications.

Further particulars may be obtained from the Academic Secretary, University of Glasgow, Glasgow G12 8QQ. Closing date for applications 15 May 1984.

In reply please quote Ref: 100/84/200

(University of London) King's College London Queen Elizabeth College Chelsea College

'NEW BLOOD' LECTURESHIP IN CHRISTIAN ORIGINS AND EARLY JUDAISM

Applications are invited for the above Lectureship, to be funded under the terms of the 'New Blood' scheme. Candidates must be under the age of 35 at the date of appointment and should not already have had employment in a permanent academic post in a UK university. The post would be tenable for 1 year from 1 October 1984 to 30 September 1985. The successful applicant will be expected to carry out research into the relationship between the first and second centuries, and to teach courses in New Testament Studies and related subjects.

Salary on the scale £7,190 to £12,125 per annum plus £1,000 p.a. London Allowance, US\$ payable.

Application forms and further particulars are available from the Assistant Registrar, King's College London, Strand, London WC2R 2LS. Tel: 01-584 8434, ext. 3689. Applications should be submitted in duplicate with the names of two referees as soon as possible, and not later than 11 May 1984.

HT

The University of Lancaster

Institute for English Language Education

TEMPORARY TEACHING POSTS

Applications are invited for the post of Lecturer in English Language Education for a number of years in the Institute for English Language Education. The Institute's programme includes courses in General English, English for Specific Purposes (including Science, Engineering, Business, etc.), and English for Academic Purposes. Applicants should have a minimum of 4 years' experience in teaching English as a Foreign Language, and a minimum of 2 years' experience in teaching English as a Second Language.

The posts will extend for a minimum of 4 weeks to a maximum of 12 weeks, and will involve up to 10 hours teaching and preparation per week at a rate of £100 p.a. plus £1,000 p.a. for the year.

Detailed applications (two copies) including CV and names of two referees should be sent to the Director, Institute for English Language Education, University of Lancaster, Bailrigg, Lancaster LA1 4YW. Closing date 31 May 1984.

The scale of stipend will be between £4,000 and £6,000 p.a. for a Senior Assistant Lecturer, and between £3,000 and £4,000 p.a. for a Junior Assistant Lecturer. The successful applicant will be subject to the normal Ordinances of the University.

Further information concerning the above posts may be obtained from the Assistant Registrar, University of Lancaster, Bailrigg, Lancaster LA1 4YW. Tel: 0539 751111. Closing date 31 May 1984.

The University of Cambridge

Computer Speech and Language Processing

TWO UNIVERSITY LECTURESHIPS

Applications are invited for two Lectureships in the Department of Computer Speech and Language Processing. The successful applicant will be expected to carry out research in the field of computer speech and language processing, and to teach courses in this field.

Applications should be sent to the Assistant Registrar, University of Cambridge, 100 Brook Road, Cambridge CB2 3RQ. Tel: 0223 333888. Closing date 31 May 1984.

HT

The University of Aston

Department of Modern Languages

LECTURESHIP IN GERMAN

Applications are invited for a Lectureship in German in the Department of Modern Languages. The successful applicant will be expected to carry out research in the field of German language and literature, and to teach courses in this field.

Applications should be sent to the Assistant Registrar, University of Aston, 4th Floor, Birmingham B4 7ET. Tel: 021 359 3111. Closing date 31 May 1984.

HT

University College London

TEMPORARY LECTURESHIP IN ANCIENT HISTORY

Applications are invited for a temporary Lectureship in Ancient History for a period of 12 months from 1 October 1984 to 30 September 1985. The successful applicant will be expected to carry out research in the field of ancient history, and to teach courses in this field.

Applications should be sent to the Assistant Registrar, University College London, Gower Street, London WC1E 6BT. Tel: 01-253 6311. Closing date 31 May 1984.

HT

(University of London) King's College London Queen Elizabeth College Chelsea College

'NEW BLOOD' LECTURESHIP IN ORGANIC CHEMISTRY

Applications are invited for the above Lectureship, to be funded under the terms of the 'New Blood' scheme. Candidates must be under the age of 35 at the date of appointment and should not already have had employment in a permanent academic post in a UK university. The post would be tenable for 1 year from 1 October 1984 to 30 September 1985. The successful applicant will be expected to carry out research in the field of organic chemistry, and to teach courses in this field.

Salary on the scale £7,190 to £12,125 per annum plus £1,000 p.a. London Allowance, US\$ payable.

Application forms and further particulars are available from the Assistant Registrar, King's College London, Strand, London WC2R 2LS. Tel: 01-584 8434, ext. 3689. Applications should be submitted in duplicate with the names of two referees as soon as possible, and not later than 11 May 1984.

HT

The City University

Centre for Information Technology

LECTURESHIP

Applications are invited for the post of Lecturer in Information Technology for a number of years in the Centre for Information Technology. The Centre's programme includes courses in General Information Technology, Information Technology for Specific Purposes (including Science, Engineering, Business, etc.), and Information Technology for Academic Purposes. Applicants should have a minimum of 4 years' experience in teaching Information Technology, and a minimum of 2 years' experience in teaching Information Technology as a Foreign Language.

The posts will extend for a minimum of 4 weeks to a maximum of 12 weeks, and will involve up to 10 hours teaching and preparation per week at a rate of £100 p.a. plus £1,000 p.a. for the year.

Detailed applications (two copies) including CV and names of two referees should be sent to the Director, Centre for Information Technology, City University, Northampton Square, London EC1N 4BT. Closing date 31 May 1984.

The scale of stipend will be between £4,000 and £6,000 p.a. for a Senior Assistant Lecturer, and between £3,000 and £4,000 p.a. for a Junior Assistant Lecturer. The successful applicant will be subject to the normal Ordinances of the University.

Further information concerning the above posts may be obtained from the Assistant Registrar, City University, Northampton Square, London EC1N 4BT. Tel: 01-253 6311. Closing date 31 May 1984.

The University of Essex

Department of Economics

LECTURESHIPS IN ECONOMICS

Applications are invited for two Lectureships in the Department of Economics. The successful applicant will be expected to carry out research in the field of economics, and to teach courses in this field.

Applications should be sent to the Assistant Registrar, University of Essex, Wivenhoe Park, Colchester CO3 3SQ. Tel: 0206 255111. Closing date 31 May 1984.

HT

The University of Kent

Department of Modern Languages

LECTURESHIP IN GERMAN

Applications are invited for a Lectureship in German in the Department of Modern Languages. The successful applicant will be expected to carry out research in the field of German language and literature, and to teach courses in this field.

Applications should be sent to the Assistant Registrar, University of Kent, Canterbury, Kent CT2 7NF. Tel: 01843 333888. Closing date 31 May 1984.

HT

University of London

Institute of Education

LECTURESHIP IN PSYCHOLOGY OF EDUCATION

Applications are invited for a Lectureship in the Psychology of Education for a period of 12 months from 1 October 1984 to 30 September 1985. The successful applicant will be expected to carry out research in the field of psychology of education, and to teach courses in this field.

Applications should be sent to the Assistant Registrar, University of London, Gower Street, London WC1E 6BT. Tel: 01-253 6311. Closing date 31 May 1984.

HT

The James Cook University North Queensland (Department of Commerce)

LECTURESHIP/SENIOR LECTURESHIP IN ACCOUNTING

Applications are invited for the post of Lecturer/Senior Lecturer in Accounting for a number of years in the Department of Commerce. The successful applicant will be expected to carry out research in the field of accounting, and to teach courses in this field.

Salary on the scale £7,190 to £12,125 per annum plus £1,000 p.a. London Allowance, US\$ payable.

Application forms and further particulars are available from the Assistant Registrar, James Cook University, North Queensland, Australia. Tel: 07 422 1111. Closing date 31 May 1984.

HT

The University of Exeter

Department of Mathematics

LECTURESHIP IN PHYSICS

Applications are invited for a Lectureship in Physics for a number of years in the Department of Mathematics. The successful applicant will be expected to carry out research in the field of physics, and to teach courses in this field.

Applications should be sent to the Assistant Registrar, University of Exeter, Exeter EX4 4JF. Tel: 0392 263111. Closing date 31 May 1984.

HT

The University of Glasgow

Department of Dermatology

CLINICAL LECTURER (HONORARY SENIOR REGISTRAR)

A vacancy exists in the University Department of Dermatology for a Clinical Lecturer (Honorary Senior Registrar). The successful applicant will be expected to carry out research in the field of dermatology, and to teach courses in this field.

Applications should be sent to the Assistant Registrar, University of Glasgow, Glasgow G12 8QQ. Tel: 0223 333888. Closing date 31 May 1984.

HT

The University of Edinburgh

Department of Social Policy

'NEW BLOOD' POST LECTURER IN SOCIAL POLICY

Applications are invited for the above 'New Blood' position, to be funded under the terms of the 'New Blood' scheme. Candidates must be under the age of 35 at the date of appointment and should not already have had employment in a permanent academic post in a UK university. The post would be tenable for 1 year from 1 October 1984 to 30 September 1985. The successful applicant will be expected to carry out research in the field of social policy, and to teach courses in this field.

Applications should be sent to the Assistant Registrar, University of Edinburgh, Edinburgh EH8 8JY. Tel: 011 275 3111. Closing date 31 May 1984.

HT

The University of Sheffield

Department of Building

LECTURESHIP AND TEMPORARY LECTURESHIP

Applications are invited for a Lectureship and a temporary Lectureship in the Department of Building. The successful applicant will be expected to carry out research in the field of building, and to teach courses in this field.

Applications should be sent to the Assistant Registrar, University of Sheffield, Sheffield S10 2TN. Tel: 0114 275 3111. Closing date 31 May 1984.

HT

The University of London

Institute of Education

LECTURESHIP IN PSYCHOLOGY OF EDUCATION

Applications are invited for a Lectureship in the Psychology of Education for a period of 12 months from 1 October 1984 to 30 September 1985. The successful applicant will be expected to carry out research in the field of psychology of education, and to teach courses in this field.

Applications should be sent to the Assistant Registrar, University of London, Gower Street, London WC1E 6BT. Tel: 01-253 6311. Closing date 31 May 1984.

HT

University of Cambridge Faculty of History

UNIVERSITY OF CAMBRIDGE LECTURESHIP IN DEMOGRAPHIC HISTORY

Applications are invited for the above Lectureship, to be funded under the terms of the 'New Blood' scheme. Candidates must be under the age of 35 at the date of appointment and should not already have had employment in a permanent academic post in a UK university. The post would be tenable for 1 year from 1 October 1984 to 30 September 1985. The successful applicant will be expected to carry out research in the field of demographic history, and to teach courses in this field.

Salary on the scale £7,190 to £12,125 per annum plus £1,000 p.a. London Allowance, US\$ payable.

Application forms and further particulars are available from the Assistant Registrar, University of Cambridge, 100 Brook Road, Cambridge CB2 3RQ. Tel: 0223 333888. Closing date 31 May 1984.

HT

The University of Exeter

Department of Economics

LECTURESHIP IN ECONOMICS

Applications are invited for a Lectureship in Economics for a number of years in the Department of Economics. The successful applicant will be expected to carry out research in the field of economics, and to teach courses in this field.

Applications should be sent to the Assistant Registrar, University of Exeter, Exeter EX4 4JF. Tel: 0392 263111. Closing date 31 May 1984.

HT

The University of Glasgow

Department of Dermatology

CLINICAL LECTURER (HONORARY SENIOR REGISTRAR)

A vacancy exists in the University Department of Dermatology for a Clinical Lecturer (Honorary Senior Registrar). The successful applicant will be expected to carry out research in the field of dermatology, and to teach courses in this field.

Applications should be sent to the Assistant Registrar, University of Glasgow, Glasgow G12 8QQ. Tel: 0223 333888. Closing date 31 May 1984.

HT

The University of Edinburgh

Department of Social Policy

'NEW BLOOD' POST LECTURER IN SOCIAL POLICY

Applications are invited for the above 'New Blood' position, to be funded under the terms of the 'New Blood' scheme. Candidates must be under the age of 35 at the date of appointment and should not already have had employment in a permanent academic post in a UK university. The post would be tenable for 1 year from 1 October 1984 to 30 September 1985. The successful applicant will be expected to carry out research in the field of social policy, and to teach courses in this field.

Applications should be sent to the Assistant Registrar, University of Edinburgh, Edinburgh EH8 8JY. Tel: 011 275 3111. Closing date 31 May 1984.

HT

The University of Sheffield

Department of Building

LECTURESHIP AND TEMPORARY LECTURESHIP

Applications are invited for a Lectureship and a temporary Lectureship in the Department of Building. The successful applicant will be expected to carry out research in the field of building, and to teach courses in this field.

Applications should be sent to the Assistant Registrar, University of Sheffield, Sheffield S10 2TN. Tel: 0114 275 3111. Closing date 31 May 1984.

HT

The University of London

Institute of Education

LECTURESHIP IN PSYCHOLOGY OF EDUCATION

Applications are invited for a Lectureship in the Psychology of Education for a period of 12 months from 1 October 1984 to 30 September 1985. The successful applicant will be expected to carry out research in the field of psychology of education, and to teach courses in this field.

Applications should be sent to the Assistant Registrar, University of London, Gower Street, London WC1E 6BT. Tel: 01-253 6311. Closing date 31 May 1984.

HT

Universities continued

University of Surrey

PART-TIME LECTURESHIP IN CHOREOGRAPHIC STUDIES/DANCE CRITICISM

Applications are invited for a part-time Lectureship (0.5) in Choreographic Studies/Dance Criticism for a number of years in the Department of Education. The successful applicant will be expected to carry out research in the field of choreography, and to teach courses in this field.

Salary on the scale £7,190 to £12,125 per annum plus £1,000 p.a. London Allowance, US\$ payable.

Application forms and further particulars are available from the Assistant Registrar, University of Surrey, Surrey GU2 7XH. Tel: 0424 863111. Closing date 31 May 1984.

HT

The University of Exeter

Department of Economics

LECTURESHIP IN ECONOMICS

Applications are invited for a Lectureship in Economics for a number of years in the Department of Economics. The successful applicant will be expected to carry out research in the field of economics, and to teach courses in this field.

Applications should be sent to the Assistant Registrar, University of Exeter, Exeter EX4 4JF. Tel: 0392 263111. Closing date 31 May 1984.

HT

The University of Glasgow

Department of Dermatology

CLINICAL LECTURER (HONORARY SENIOR REGISTRAR)

A vacancy exists in the University Department of Dermatology for a Clinical Lecturer (Honorary Senior Registrar). The successful applicant will be expected to carry out research in the field of dermatology, and to teach courses in this field.

Applications should be sent to the Assistant Registrar, University of Glasgow, Glasgow G12 8QQ. Tel: 0223 333888. Closing date 31 May 1984.

HT

The University of Edinburgh

Department of Social Policy

'NEW BLOOD' POST LECTURER IN SOCIAL POLICY

Applications are invited for the above 'New Blood' position, to be funded under the terms of the 'New Blood' scheme. Candidates must be under the age of 35 at the date of appointment and should not already have had employment in a permanent academic post in a UK university. The post would be tenable for 1 year from 1 October 1984 to 30 September 1985. The successful applicant will be expected to carry out research in the field of social policy, and to teach courses in this field.

Applications should be sent to the Assistant Registrar, University of Edinburgh, Edinburgh EH8 8JY. Tel: 011 275 3111. Closing date 31 May 1984.

HT

The University of Sheffield

Department of Building

LECTURESHIP AND TEMPORARY LECTURESHIP

Applications are invited for a Lectureship and a temporary Lectureship in the Department of Building. The successful applicant will be expected to carry out research in the field of building, and to teach courses in this field.

Applications should be sent to the Assistant Registrar, University of Sheffield, Sheffield S10 2TN. Tel: 0114 275 3111. Closing date 31 May 1984.

HT

The University of London

Institute of Education

LECTURESHIP IN PSYCHOLOGY OF EDUCATION

Applications are invited for a Lectureship in the Psychology of Education for a period of 12 months from 1 October 1984 to 30 September 1985. The successful applicant will be expected to carry out research in the field of psychology of education, and to teach courses in this field.

Applications should be sent to the Assistant Registrar, University of London, Gower Street, London WC1E 6BT. Tel: 01-253 6311. Closing date 31 May 1984.

HT

University of Exeter

PRIMARY CURRICULUM RESEARCH

Applications are invited for the above Primary Curriculum Research, to be funded under the terms of the 'New Blood' scheme. Candidates must be under the age of 35 at the date of appointment and should not already have had employment in a permanent academic post in a UK university. The post would be tenable for 1 year from 1 October 1984 to 30 September 1985. The successful applicant will be expected to carry out research in the field of primary curriculum, and to teach courses in

Universities continued

University of Dundee
Department of Physics
Applications are invited for a
'NEW BLOOD' LECTURESHIP IN PHYSICS

Applications are invited for the above Department from 1 October 1984. Applicants should be under 35 years of age and have a first degree in physics or a related subject. The position is full-time and involves teaching and research in the physics of semiconductors.

Salary scale £7,180-£14,195 with little placing dependent on qualifications and experience.

Applications (6 copies, or if possible one copy) containing full curriculum vitae and references should be sent to the Department of Physics, University of Dundee, Dundee DD1 1AH, from whom the particulars are available. Please quote reference 78/44G.

University of Birmingham
Department of Industrial Economics and Business Studies
LECTURESHIP

Main duties will be in Business Policy and Organisation, but may include contributions to other Business Studies teaching.

From 1 October 1984 the salary scale is £27,180-£41,185 plus US\$.

Further particulars and application form from the Assistant Registrar (Comptroller), University of Birmingham, PO Box 363, Birmingham B15 2TT, to whom the form should be sent quoting reference C/800. H1

Librarians

University of Liverpool
Sydney Jones Library
SENIOR LIBRARY ASSISTANT

For general duties in Arts and Social Sciences. Salary scale (under review) £5,400-£8,400 plus £1,350 per annum for 13 hours a week.

Candidates must possess a degree in librarianship or equivalent professional qualification.

Application forms are available from the Assistant Registrar, University of Liverpool, PO Box 147, Liverpool L69 3GB. Closing date: 1 May 1984. Quote Ref: A/87/74358. H15

Polytechnics

Brighton Polytechnic

CHELSEA SCHOOL OF HUMAN MOVEMENT
Head of Department Grade VI
£16,632-£18,327

The School, based on the Eastbourne campus, has a BSc (Hons) course in Sports Science and a Polytechnic diploma course in Sports Management and Administration, and trains specialist teachers of Physical Education through both BEd (Hons) and PGCE courses. Further course development in paramedical and recreation/tourism fields is envisaged.

Candidates should have a first degree or equivalent in Physical Education, Human Movement or a related area and preferably a higher degree and an interest in research. Experience in course development/management would be an advantage.

Application forms and further details are available from the Personnel Officer, Brighton Polytechnic, Mitras House, Mountsdown, Brighton BN2 4AT. Tel: Brighton (0273) 893555. Ext. 2300.

Closing date: 3rd May, 1984.

(1459)

LIVERPOOL POLYTECHNIC
HEAD OF DEPARTMENT OF PHYSICS
£16,632-£18,327

The Governors are seeking a person with high academic qualifications, teaching experience at Honours Degree level, a substantial research record and the ability to develop and lead the staff of the Department as both a teaching team and as active research workers. The position is full-time and involves teaching and research in the physics of semiconductors.

Previous experience will be considered. Please quote Reference LP 836. Closing date: 27th April, 1984.

Application forms and further details from Personnel Office, Rodney House, 70 Mount Pleasant, Liverpool L3 5UX. Tel: 051 527 1111.

University of Dundee
Department of Psychology
'NEW BLOOD' LECTURESHIP IN PSYCHOLOGY

Applications are invited for the above post from candidates under 35 years of age with a background in human experimental psychology and willing to explore the concepts and methods of cognitive psychology in a social context. The person appointed will be expected to pursue research on some aspect of social cognition and to contribute to teaching in Experimental Social Psychology.

The appointment will be available from 1 October 1984 and will be made on the basis of a shortlist of candidates. The salary scale is £27,180-£41,185 plus US\$.

Further particulars are available from the Personnel Officer, University of Dundee, Dundee DD1 1AH, from whom the particulars are available. Please quote reference 78/44G.

University of Birmingham
Department of Industrial Economics and Business Studies
LECTURESHIP

Main duties will be in Business Policy and Organisation, but may include contributions to other Business Studies teaching.

From 1 October 1984 the salary scale is £27,180-£41,185 plus US\$.

Further particulars and application form from the Assistant Registrar (Comptroller), University of Birmingham, PO Box 363, Birmingham B15 2TT, to whom the form should be sent quoting reference C/800. H1

The University of Hull
FELLOWSHIP IN EUROPEAN POLITICAL STUDIES
(with particular reference to Turkey)

Applications are invited for a Fellowship in European Political Studies, with particular reference to Turkey, for one year from 1st October 1984. Applicants must have a good knowledge of the Turkish language.

Salary will be within the range £13,000-£16,000 per annum, according to age and experience.

Applications, giving age, qualifications and experience, should be sent to the Personnel Officer, University of Hull, University of Hull, Hull HU6 7RX, from whom further particulars can be obtained.

Application forms are available from the Assistant Registrar, University of Hull, University of Hull, Hull HU6 7RX, from whom further particulars can be obtained. Date: 1 May 1984. Quote Ref: A/87/74358. H15

PRESTON POLYTECHNIC

Faculty of Science Professor/Head of School posts

Applications are invited for the following newly created senior posts, which arise from the continuing academic development programme of the Polytechnic and the establishment of a Faculty of Science, comprising Schools of Chemistry, Biology, Mathematics & Statistics, Physics & Astronomy, Psychology.

Professor/Head of Chemistry
(Ref. AA/118)

Professor/Head of Biology
(Ref. AA/119)

Professor/Head of Mathematics & Statistics
(Ref. AA/120)

Professor/Head of Physics & Astronomy
(Ref. AA/121)

All the above posts are established as Burnham Head of Department Grade VI (salary currently £16,632-£18,327, award pending).

Application forms and further details obtainable from The Clerk to the Polytechnic Council, Preston Polytechnic, Corporation Street, Preston PR1 2TG. Telephone (0772) 22141 ext. 2008 quoting the appropriate Ref. No.

Closing date for receipt of completed applications 9th May 1984. The Polytechnic is being re-named Lancashire Polytechnic from September.

(14586)



ROBERT GORDON'S INSTITUTE OF TECHNOLOGY, ABERDEEN

SCHOOL OF MATHEMATICAL SCIENCES AND COMPUTER STUDIES

LECTURER

to teach Mathematics and Computer Science in BSc Mathematical Sciences and higher diploma in Computer Studies courses and to contribute to proposed honours degree course in Computer Science, Internet in research and one or more of Graphics, Databases, Simulation, Artificial Intelligence and Computing Theory would be an advantage.

Good honours degree required in Mathematics (with computing experience) or in Computer Science. Recent graduates having a good first or higher degree are encouraged to apply.

Salary range (under review): £8,313-£13,125 per annum. Assistance with removal expenses.

Details from Secretary, Robert Gordon's Institute of Technology, Schoolhill, Aberdeen, AB9 1FR: (0224 633911).

Closing date for applications: 27th April, 1984.

(14587)

Sheffield City Polytechnic
DEPARTMENT OF APPLIED SOCIAL STUDIES
RESEARCH ASSOCIATE

Applications are invited for the post of Research Associate on a Sports Council/ESRC-funded project on gender and leisure, from graduates with a good first degree in Sociology and preferably with some experience of postgraduate study in the Sociology of Leisure and/or the Sociology of Women. The job will primarily involve conducting a small qualitative study of the opportunities and constraints on free time and on leisure activities associated with gender, but some contribution is also expected to the wider programme of research. Some familiarity with the use of Social Science Software for the computer analysis of data would be an advantage. The opportunity to register for a higher degree may be available.

The appointment is for a fixed term of two years to commence from 1st July, 1984, or as soon as possible thereafter.

Salary scale: £7,215-£7,659 per annum.

For further information contact: Eileen Green or Diana Woodward, telephone (0742) 29911 ext. 2371 (preferably before 1 p.m.). Application forms are available from the Personnel Office (Dept. HR55), Sheffield City Polytechnic, Halford House, Fitzalan Square, Sheffield, S1 2BA, or by telephoning (0742) 29911 ext. 2387. Completed forms should be returned by 10th May.

Sheffield City Polytechnic is an Equal Opportunities Employer.

(14588)

oxford polytechnic

Faculty of Educational Studies

HEAD OF CENTRE FOR VOCATIONAL EDUCATION

The Head of the Unit will be expected to provide leadership and initiative in the 14-16 sector including a concern for Further Education and the new years of schooling.

Salary (Principal Lecturer) £12,819-£18,744 (under review). Ref: EDV177 Closing date: 30th April, 1984.

LECTURER/SENIOR LECTURER FOR THE CERTIFICATE IN EDUCATION TEACHING OF HEARING-IMPAIRED CHILDREN

Applications are invited for an appointment as Lecturer II or Senior Lecturer to join the team responsible for this course. Applicants should be qualified and experienced teachers of the deaf, with recent experience in the external service, either in a unit or in the postgraduate service. A strong interest in the process of integration, curriculum management and educational provision would be valuable.

Salary scale: £7,215-£13,443 (under review). Closing date: 14th May, 1984 Ref: EDV20.

HEAD OF DEPARTMENT OF DESIGN (COMMUNICATION ARTS)

The Department provides the following fields of study in the multi-disciplinary design degree course: visual studies, publishing and musical studies and also a foundation course in art.

Salary: Head of Department, Grade 6, £16,632-£18,327 (under review). Closing date: 30th April, 1984. Ref: DEB21.

Department of Educational Development

POST OF FELLOW/LECTURER IN EDUCATION MANAGEMENT

Temporary for one year.

Applications are invited for a one year temporary post of Lecturer/Senior Lecturer in Education Management, to act as Course Leader to the Council for National Academic Awards validated two-year part-time Diploma in Education Management (Organisation and Administration) and to teach aspects of Management Studies within the Faculty of Educational Studies. The post arises from granting a new secondment to the present postholder for research purposes, for the academic year 1984/85.

Salary: £11,000. Closing date: 30th April, 1984. Ref: EDV1715.

Faculty of Technology
Department of Geology & Physical Sciences

RESEARCH ASSISTANTS IN PHYSICAL SCIENCES

1. LASER DOPPLER AND SPECTROPHOTOMETRIC TECHNIQUES USING FIBRE OPTICS IN NON-INVASIVE PHYSIOLOGICAL MEASUREMENTS. The Department of Geology and Physical Sciences is seeking to appoint a Research Assistant to work for three years on the development and investigation of Laser Doppler and spectrophotometric techniques suitable for non-invasive physiological measurements. Emphasis will be placed on analysis of the characteristics and output of the electrical signals resulting from the photostimulation of coherent and incoherent optical radiation scattered from skin tissue, using fibre optics in the illumination and light collection. Candidates for the post should possess a good honours degree, preferably in physics or electronics with an interest in biomedical engineering.

Ref: GPR11 Closing date: 30th May, 1984.

2. APPLICATIONS OF COMPUTING IN TEACHING PHYSICAL SCIENCES. The Department of Geology and Physical Sciences is seeking to appoint a Research Assistant to work for three years on one of the following:

1) Computer Modelling of Scientific Instruments
2) Computer Representation of 3-dimensional Functions in Physical Sciences. Candidates for the post should possess a good honours degree, preferably in chemistry or physics in each case with subsidiary computing or John Horner Chemistry/Computing of Physics/Computing with an interest in computing in education.

Ref: GPR12 Closing date: 30th May, 1984.

The successful applicants will be permitted to register for the degree of MPhil/PhD with the C.N.A.A. and will be required to undertake some laboratory teaching at undergraduate level. Starting salary is in the range £4,947-£5,649 p.a. The posts are available from 1st September, 1984.

S.E.R.C. RESEARCH STUDENTSHIP
Applications are invited for a Science and Engineering Research Council Collaborative Training Award Studentship which will be held in conjunction with Applied Physics Ltd, London. The project involves the design and construction of a portable integrating sphere reflectometer for the measurement of the optical properties of absorbing and transmitting surfaces used in solar collectors. Work will involve spectral correction and calibration of lamp sources, design of transfer optics and integrating spheres, detector selection and calibration, design of electronic circuitry and construction and testing of the portable instrument.

The successful applicant will join a small group working on the development of spectrally selective materials for solar collectors and will spend up to three months working in London with the industrial collaborator. Applied Physics Ltd are a leading company who specialise in the design and manufacture of optical instruments and excellent facilities are available for the project.

Successful completion of the project will lead to the degree of MPhil. Applicants should have a good honours degree, preferably in physics or electronics and possess a strong interest in the design of instrumentation.

Ref: GPR13 Closing date: 1st June, 1984.

Department of Catering Management

TEMPORARY LECTURER/SENIOR LECTURER IN HUMAN NUTRITION

Applications are invited for a one year, full time temporary post in the Department of Catering Management from suitably qualified candidates. The post will be available from 1st September, 1984 to 31st August, 1985.

The successful candidate will be responsible for the teaching of human nutrition as part of the honours degree field of Food Science and Nutrition and as part of the Human Biology and Environmental Biology honours degree. Teaching responsibilities of the post are in four areas: a laboratory based module on the fundamentals of nutrition, a laboratory based module on applied nutrition data on the human life cycle and on diet and disease in western countries, a module on the nutrition problems of developing countries and the supervision of undergraduate projects in human nutrition. The successful candidate will be encouraged to participate in research.

Salary range: £7,215-£13,443. Ref: CM21. Closing date: 4th May, 1984.

Faculty of Modern Studies
Department of Management and Business Studies

LECTURER/SENIOR LECTURER IN MARKETING

Applications are invited for a post in Marketing, Marketing teaching in the Department is required in the BA (Hons) Business Studies Degree and in Higher National Diploma and the post provides training in following management studies.

The appointment will be for 1st September, 1984. Applicants should have a degree and/or a postgraduate qualification.

Salary range: £7,215-£13,443 (under review). Ref: M2021. Closing date: 4th May, 1984.

Application forms and further details from Mrs. C. Williams, Staffing, Oxford Polytechnic, Headington, Oxford, Tel: Oxford 0777 ext. 394.

Polytechnics continued

NORTH STAFFS POLY

Applications are invited for the following posts. In addition to appropriate academic qualifications candidates will be expected to have engaged in relevant consultancy or postgraduate research.

FACULTY OF BUSINESS, HUMANITIES AND SOCIAL SCIENCES

Department of Business Studies (3 Posts)
PRINCIPAL LECTURER/SENIOR LECTURER/LECTURER GRADE II IN MARKETING (1 POST)

PRINCIPAL LECTURER/SENIOR LECTURER/LECTURER GRADE II IN MARKETING (1 POST)

Applicants should possess, in addition to a relevant first degree, recent practical experience in the field of marketing management.

SENIOR LECTURER/LECTURER GRADE II IN MANAGEMENT ACCOUNTING/FINANCIAL MANAGEMENT (1 POST)

Applications are invited from graduates and/or professionally qualified accountants, preferably with recent industrial or commercial experience.

SENIOR LECTURER/LECTURER GRADE II IN BUSINESS ADMINISTRATION (1 POST)

Applicants should be able to lecture in some or all of the following subjects: Business Organisation, Business Policy, Corporate Planning, Business Finance and Accounting, and Business Systems, and should be graduates with proven industrial experience at Management level, preferably in an engineering based company.

Department of Economics (1 Post)
LECTURER GRADE II IN INTERNATIONAL RELATIONS (1 POST)

Applicants should have suitable experience in the general field of international political behaviour and the development of the international system.

LECTURER GRADE II IN POLITICS (1 POST)

Applicants should be able to teach final year courses in Politics of Western Europe and the European Community.

Department of Law (2 Posts)
LECTURER GRADE II IN COMMERCIAL/REVENUE LAW
LECTURER GRADE II IN PUBLIC LAW

Applications are invited from well qualified law graduates or professionally qualified lawyers prepared to teach across a wide range of degrees, diploma and professional courses.

Department of Sociology (2 Posts)
PRINCIPAL LECTURERS/SENIOR LECTURERS/LECTURERS GRADE II IN SOCIOLOGY/SOCIAL PSYCHOLOGY

Applicants should be able to contribute to the teaching of research methods including data analysis techniques and the use of microcomputers. Additional strengths in one or more of the following areas would be an advantage: Social policy, feminist sociology, socio-legal studies, sociological aspects of sport and recreation, sociology and/or social psychology of work and business.

FACULTY OF COMPUTING, ENGINEERING AND SCIENCE

Department of Electrical and Electronic Engineering (2 Posts)

SENIOR LECTURER/LECTURERS GRADE II

Applicants should be able to demonstrate a specialism in one or more of the following areas: Digital communications, Computer Technology, Computer-aided design, V.L.S.I. or I.K.B.S.

Department of Mathematics (1 Post)

SENIOR LECTURER/LECTURER GRADE II

Applicants should have knowledge of and experience in Statistics with Operational research, or Engineering mathematics.

The salary ranges for all the above posts are: —

Principal Lecturers £12,619-£13,938 (Bar) - £15,744

Senior Lecturer £10,883-£12,882 (Bar) - £13,443

Lecturer Grade II £7,215-£11,668

Application forms and further particulars for all the above posts may be obtained from The Personnel Officer, North Staffordshire Polytechnic, College Road, Stoke-on-Trent, ST4 2DE. Tel: (0782) 46631, Ext. 287.

Closing date for completed applications — Friday, 27th April, 1984.

(14577)

Preston Polytechnic

Faculty of Science

LECTURER II IN BIOLOGY

Applications are invited for the above post in the newly created School of Biology.

Applicants should have a first degree in biology or a related subject, and be able to teach at Honours level. Some knowledge of applied physiology would be an advantage.

Duties of the post include teaching on a wide spectrum of topics, including the following: Cell Biology, Plant Physiology, Animal Physiology, and the development of a research project.

Current salary range, which will be reviewed in 1985, is £7,215-£13,443 (under review).

Application forms and further details are available from the Personnel Office, Preston Polytechnic, Corporation Street, Preston PR1 2TG. Tel: (0772) 22141 ext. 2008.

Closing date for receipt of completed applications: 30th April, 1984.

The Polytechnic is being re-named Lancashire Polytechnic from September.

Middlesex Polytechnic

ASSISTANT CAREERS ADVISER

£5,781-£9,339 p.a. inc

An opportunity to join a small team providing a polytechnic-wide careers guidance service for Middlesex's full-time, sandwich and graduate students.

Working extensively with placement officers, activities include research and development, writing careers information and publicity material, organising employer visits, and developing a careers advisory service.

A good appreciation of the scope of polytechnic activity in the main fields of graduate employment is expected, together with graduate status and possession of or study towards a careers qualification.

Write quickly Ref: C1188 for application form and further details, including a list of suitable employers, to: Mrs. C. Williams, Staffing, Oxford Polytechnic, Headington, Oxford, Tel: Oxford 0777 ext. 394.

Closing date for receipt of completed applications: 30th April, 1984.

The Polytechnic is being re-named Lancashire Polytechnic from September.

Polytechnic of the South Bank

Borough Road, London SE1 0AA.

Academic Registrars Department

FACULTY ADMINISTRATIVE OFFICER

(Ref: ADM13)

Applications are invited for the post of Faculty Administrative Officer in the Faculty of Education, Human and Social Studies. This is a senior position and involves the administration of the Polytechnic and the management of its resources.

The qualifications and experience required are: a first degree in a relevant subject, and a minimum of five years' experience in a similar post.

Salary scale in the range £9,339-£13,443 plus London Allowance.

Further particulars and application forms are available from the Personnel Office, Polytechnic of the South Bank, Borough Road, London SE1 0AA. Tel: (01) 407 1111.

Newcastle Upon Tyne Polytechnic

Faculty of Professional School of Accountancy

SENIOR LECTURER IN FINANCIAL ACCOUNTANCY

Ref No. A12/84

Applications are invited from suitably qualified persons to join a team involved in a wide range of professional and degree courses.

It is expected that the successful candidate will hold a suitable professional accountancy qualification and/or a relevant degree in addition to recent professional experience.

Recruitment Education Service

SENIOR LECTURER (Recruitment Education)

Ref No. A13/84

Applications are invited for the above post from persons with the function of assisting the Head of the Faculty of Professional School of Accountancy within the Polytechnic and to encourage the introduction, development and promotion of new activities.

In particular, important features of work of the Service are to assist the Head of the Faculty of Professional School of Accountancy to meet the educational and professional needs of industry and to improve access to educational opportunities.

Applicants should have recent experience of development work in the field of recruitment and/or guidance and counselling, and be returning to learning.

Faculty of Business and Management
School of Business Administration

LECTURER II OR SENIOR LECTURER IN OFFICE ADMINISTRATION

Ref No. A14/84

Applications are invited for

Colleges of Higher Education continued

NENE COLLEGE, NORTHAMPTON

DEAN OF THE
SCHOOL OF TECHNOLOGY

Re-advertisement

Applications are invited for this key post, which becomes available from 1st September 1984 on the retirement of the present Dean, Mr A. Parthenis.

Nene College is a thriving establishment providing a wide range of further and higher education courses to a variety of catchments - local to international. The School of Technology has played an important part in the growth and successful diversification of the College.

The College now seeks to appoint a person capable of developing further the standing and importance of the School.

Applicants should possess a good honours degree in the fields of engineering or construction, together with appropriate membership of at least one chartered professional body. Proven administrative and leadership skills will also be decisive criteria for this Burnham Head of Department, Grade VI Post.

Potential applicants should telephone the Chief Administrative Officer at 0504 715000 for further details, on appearance of this advertisement. Previous applicants wishing to be re-considered should notify the Deputy Director by letter as soon as possible.

(14593)

Roehampton
InstituteDigby Stuart
Frederick
Southlands
Whitlands

Courses offered by the Roehampton Institute of Higher Education are in combined studies leading to university first and higher degrees. The Institute seeks to make the following appointment with effect from 1st September, 1984 or as soon as possible thereafter.

LECTURESHIP IN
DEPARTMENT OF ENVIRONMENTAL
& GEOGRAPHICAL STUDIES

Applications are invited from honours graduates with wide interests in physical geography. A higher degree and the ability and willingness to take part in courses in environmental studies, and in particular to help with primary and other professional work, would be additional qualifications. Salary: (L11SL) £7,215-£13,443 plus London Allowance £987 per annum. Application forms and further particulars may be obtained by writing to:

R. A. Fennell, Assistant Secretary
Roehampton Institute of Higher Education
Digby Stuart College
Roehampton Lane, London SW15 5PH
Closing date for applications: Friday, 4th May, 1984.

(14555)

WEST LONDON INSTITUTE
OF HIGHER EDUCATION

Department of Humanities

LECTURER II
American Studies

Applications are invited for the post of Lecturer II, commencing September 1984. The person appointed will contribute to the teaching of American Studies within the Institute's BA Joint Honours Degree programme. Particular interest in American social history of the 19th and 20th centuries is being sought. Ability to teach some 20th Century literature will be an advantage. Commitment will be required to single and interdisciplinary teaching and to team teaching. The salary will be in accordance with the L1 Scale for Senior Lecturers (£7,215.00-£13,443.00 plus an Over London Allowance of £987.00 p.a.).

Applications and further details may be obtained from the Vice Principal, W.L.I.E., Lansdowne House, Borough Road, Lambeth, London, SE1 7DU. Tel: 01-888 8741 ext. 277.
Completed forms to be returned by Friday, 27th April, 1984.

(14580)

Research
& StudentshipsCounty of Avon
Bath College of Higher
Education

Applications are invited for the post of Lecturer in the Department of Education, Bath College of Higher Education, Bath, BA2 9BN. Tel: 01225 37011 to whom applications (no forms) should be returned by 30th April, 1984.

(14572)

LECTURERS
GRADE II IN
EDUCATION AND
ANIMAL SCIENCE

Applications are invited for the post of Lecturer in the Department of Education, Bath College of Higher Education, Bath, BA2 9BN. Tel: 01225 37011 to whom applications (no forms) should be returned by 30th April, 1984.

University of
WarwickRESEARCH
STUDENTSHIP IN
PHYSICS

Applications are invited for the post of Research Student in the Department of Physics, University of Warwick, Coventry, CV4 7AL. Tel: 0243 533333 to whom applications (no forms) should be returned by 30th April, 1984.

SOUTHERN EXAMINING GROUP
16+
EXAMINATIONS
RESEARCH
PROJECTPosts of
Research Officer
and
Research AssistantBased at the Offices of
the Associated Examining Board

Applications are invited for two fixed term posts in the Associated Examining Board's Research Unit. A Research Officer and a Research Assistant are required, to work on this major project studying the operation of examination papers targeted at different levels of difficulty. The main aim of the research is to identify successful procedures for the setting and grading of examinations in which such papers are used.

Applicants for the post of Research Officer should have either a higher degree or considerable experience in a field related to the measurement of human attributes such as educational achievement. For this post preference will be given to candidates with a proven ability to write for publication. Applicants for both posts should be graduates with a sound knowledge of the statistical methods commonly used in educational measurement, some familiarity with computing techniques and, preferably, experience of teaching and public examination procedures.

The project is jointly funded by the Secondary Examinations Council and the Southern Examining Group and is scheduled to run from June 1984 to the end of December 1987; both appointments are for the duration of the project. The current Research Officer's salary is £20,875 x nine annual increments to £14,125 per annum. For both appointments, the starting point on the scale will depend on qualifications and experience.

The project will be based at the AEB's offices, currently in Aldershot. However, the Board is scheduled to move late in 1985 to purpose-built premises about ten miles away at Slag Hill in Guildford.

Further information, together with an application form, may be obtained from the:

Personnel Manager
The Associated Examining Board
The Wellington House
Aldershot, Hampshire GU11 1BQ
(Tel: Aldershot 25551)

to whom completed forms of application must be returned within three weeks of the appearance of this advertisement.

(14000)

EALING COLLEGE OF
HIGHER EDUCATION

READER

In the School of Business and Management

READER

In the School of Language Studies (Language Teaching and Language Learning)

Applications for these new posts should have an outstanding personal record of research, publication and/or consultancy. They will be familiar with the workings of major organisations associated with the teaching of English as a second language. In addition, applicants should be capable of guiding and supervising the research and development activity of a strong staff team with a broad research base. Salary: £13,500-£16,731 p.a. inclusive.

RESEARCH ASSISTANTS

Computer Aided Instruction for Accounting and Finance. The project will identify and evaluate systems of C.A.I. for Accounting and Finance. Applicants should have a higher degree in Accounting or Finance or a related discipline and be capable of guiding and supervising the research and development activity of a strong staff team with a broad research base. Salary: £13,500-£16,731 p.a. inclusive.

1. SCHOOL OF ECONOMICS AND ACCOUNTING:

Computer Aided Instruction for Accounting and Finance. The project will identify and evaluate systems of C.A.I. for Accounting and Finance. Applicants should have a higher degree in Accounting or Finance or a related discipline and be capable of guiding and supervising the research and development activity of a strong staff team with a broad research base. Salary: £13,500-£16,731 p.a. inclusive.

2. SCHOOL OF LIBRARY AND INFORMATION STUDIES:

Continuing Education for Library and Information Management. The project will investigate the market for design and evaluation of continuing education for library and information management. The position may be suitable for a Postgraduate Student.

3. SCHOOL OF HUMANITIES:

The Social Psychology of Opinion Polling. The project will develop techniques of opinion polling and their public presentation. Applicants should have a higher degree in Psychology or a related discipline and be capable of guiding and supervising the research and development activity of a strong staff team with a broad research base. Salary: £13,500-£16,731 p.a. inclusive.

Research Assistant posts are available from 1st September 1984 to 31st August 1985. Application forms and further details from: The Chief Administrative Officer (T.C.O.), Ealing College of Higher Education, 5th May Road, London W5 8PQ. Closing date: 30th April 1984.

Further information and application forms may be obtained from the T.C.O. by telephone 01-834 8343 or by post to the T.C.O., Ealing College of Higher Education, 5th May Road, London W5 8PQ. Tel: 01-834 8343.

THE TIMES HIGHER EDUCATION SUPPLEMENT 13.4.84

University of London

The London School of Economics

SERC STUDENTSHIPS IN SEA-USE

The London School of Economics is offering a number of studentships, funded by the Science and Engineering Research Council, on the SERC Sea-Use Programme for the academic year 1984-85. Preference will be given to applicants possessing a good first degree in economics or a related discipline in the economic sciences; but applications from other disciplines such as law, engineering, political science, history, geography or environmental studies will be considered.

The programme consists of a basic course in Marine Science, Biology and Technology, with a choice of two optional courses from International Law of the Sea, Financial Accounting and Management, Economics and Problems of Development, and Policy-Making. Each course is taught together with a research project of 10,000 words on an agreed topic.

Candidates should write to the Secretary of the Graduate School, The London School of Economics and Political Science, Houghton House, London WC2A 2AE, for application material. H11

Manchester
Polytechnic

Institute of Advanced Studies and Faculty of Art and Design

RESEARCH ASSISTANT

Applications are invited from people with a higher degree in one (or more) of the following areas:

(i) Fine Art Research
(ii) Industrial Design for Medical Equipment
(iii) Computer Aided Design

Opportunities exist to register for the research degrees of MPhil and PhD and the Research Assistant will also be expected to carry out some teaching at first degree level. The appointment will be for two years with the possibility of renewal.

Salary Scale £6,123-£6,603.

Application form (returnable by post) and further information may be obtained from the Director of Advanced Studies, Manchester Polytechnic, 100 Portland Street, Manchester M1 3PL. Please indicate areas of interest on the application form. Previous applicants may re-apply. H11

University of Kent
Canterbury

Dr Harvey Monaghan, Research Fellow in Social Sciences

The Faculty of Social Sciences is inviting applications for a post of Research Assistant in the above which will be an employment in the Faculty of Social Sciences. The post is a higher degree from October 1984. The post is a full-time position, with a salary of £6,123 p.a. plus an Over London Allowance of £987 p.a. The successful applicant will be expected to carry out research in the field of Social Sciences, and to assist in the teaching of Social Sciences. The successful applicant will be expected to carry out research in the field of Social Sciences, and to assist in the teaching of Social Sciences.

Application forms and further details are available from: The Graduate Office, The Registry, The University of Kent, Canterbury, Kent, CT2 7PU. Tel: Canterbury (02037) 55555. Please quote reference no. PG/84/4.

The University of Lancaster

Department of Geography & Centre for North-West Regional Studies

Applications are invited for the post of:

RESEARCH ASSISTANT

for a nine-month project assessing sources of data on employment in the North-West area. Applicants should have a good degree in geography or a related discipline and be under 30 years of age. The salary is based on an annual scale starting at £6,310.

Further particulars may be obtained (quoting ref. 158/84) from the Establishments Officer, The University of Lancaster, Bailrigg, Lancaster LA1 4YW. Where possible, please quote reference no. 158/84.

University of Keele

Department of Geography

POSTGRADUATE STUDENTSHIPS IN GEOGRAPHY

Applications are invited for two postgraduate studentships in the Department of Geography, University of Keele. The studentships are for the academic year 1984-85. The studentships are for the academic year 1984-85. The studentships are for the academic year 1984-85.

Further information and application forms may be obtained from the Department of Geography, University of Keele, Keele, Staffordshire ST5 5BG. Tel: 01829 593434.

University of Keele

Department of Geography

POSTGRADUATE STUDENTSHIPS IN GEOGRAPHY

Applications are invited for two postgraduate studentships in the Department of Geography, University of Keele. The studentships are for the academic year 1984-85. The studentships are for the academic year 1984-85. The studentships are for the academic year 1984-85.

Further information and application forms may be obtained from the Department of Geography, University of Keele, Keele, Staffordshire ST5 5BG. Tel: 01829 593434.

University of Keele

Department of Geography

POSTGRADUATE STUDENTSHIPS IN GEOGRAPHY

Applications are invited for two postgraduate studentships in the Department of Geography, University of Keele. The studentships are for the academic year 1984-85. The studentships are for the academic year 1984-85. The studentships are for the academic year 1984-85.

THE TIMES HIGHER EDUCATION SUPPLEMENT 13.4.84

University of East Anglia

Norwich

School of Modern Languages and European History

Applications are invited for two studentships, funded by the Science and Engineering Research Council, on the SERC Sea-Use Programme for the academic year 1984-85. Preference will be given to applicants possessing a good first degree in economics or a related discipline in the economic sciences; but applications from other disciplines such as law, engineering, political science, history, geography or environmental studies will be considered.

The programme consists of a basic course in Marine Science, Biology and Technology, with a choice of two optional courses from International Law of the Sea, Financial Accounting and Management, Economics and Problems of Development, and Policy-Making. Each course is taught together with a research project of 10,000 words on an agreed topic.

Candidates should write to the Secretary of the Graduate School, The University of East Anglia, Norwich, NR4 7TJ, for application material. H11

Colleges of Higher Education continued

La Sainte Union College of Higher Education

The Avenue, Southampton SO9 5HR

Tel: (0703) 28761

COMPUTER PROGRAMME/CURRICULUM DEVELOPMENT OFFICER

in the Department of Computing Science, La Sainte Union College of Higher Education, The Avenue, Southampton SO9 5HR. The successful applicant will be responsible for the development and implementation of computer programmes and curriculum materials for use in the college. The successful applicant will be responsible for the development and implementation of computer programmes and curriculum materials for use in the college.

Further information and application forms may be obtained from the Director of Studies, La Sainte Union College of Higher Education, The Avenue, Southampton SO9 5HR. Tel: (0703) 28761.

Colleges of Art

Epsom School of Art and Design

Applications are invited for the post of Lecturer in the Department of Art and Design, Epsom School of Art and Design, Epsom, Surrey. The successful applicant will be responsible for the teaching of Art and Design to students on the college's courses. The successful applicant will be responsible for the teaching of Art and Design to students on the college's courses.

Further information and application forms may be obtained from the Director of Studies, Epsom School of Art and Design, Epsom, Surrey. Tel: 01832 55555.

The University of Keele

Department of Geography

POSTGRADUATE STUDENTSHIPS IN GEOGRAPHY

Applications are invited for two postgraduate studentships in the Department of Geography, University of Keele. The studentships are for the academic year 1984-85. The studentships are for the academic year 1984-85. The studentships are for the academic year 1984-85.

Further information and application forms may be obtained from the Department of Geography, University of Keele, Keele, Staffordshire ST5 5BG. Tel: 01829 593434.

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THE TIMES HIGHER EDUCATION SUPPLEMENT 13.4.84

Scholarships

SCHOLARSHIPS
AND
TRAINING ASSISTANCEGLAMORGAN
FURTHER
EDUCATION TRUST

The Mid Glamorgan County Council is the trustee of the Glamorgan Further Education Trust Fund.

The Fund is intended to benefit:

(i) pupils who have for not less than two years at any time attended a County Secondary School in the area of the former Administrative County of Glamorgan or Howell's Glamorgan County School, Cardiff, provided that candidates who have attended Howell's Glamorgan County School have been resident for not less than two years while a pupil at the School, in the former Administrative County of Glamorgan.

(ii) girls pupils who have for not less than two years at any time attended any maintained Primary School in the Parishes of Llanfair, Pontypridd, Pontypridd, Llanfahan, Llanfyllter, Eglwysilan and that part of the Parish of Llanwneio comprising the former Ynysybwl Ward of the former Mountain Ash Urban District with a preference for such girls who while in attendance at any such school were resident in the Parish of Eglwysilan.

The Fund is to be applied to the following objects in the case of pupils falling within categories (i) and (ii) above:

(a) Exhibitions tenable at any training college for teachers, university of other institution of further (including professional and technical) education, approved by the Council, to be awarded under rules made by the Council, including rules as to the value and period of tenure of the exhibitions, and the qualifications, and with the following additional objects in the case of pupils falling within category (i) above only:—

(b) Financial assistance, outfits, clothing, tools, instruments or books to enable beneficiaries on leaving school, university or other educational establishments, to prepare for, or to assist their entry into a profession, trade or calling.

Application forms and copies of the rules governing the making of awards may be obtained from a prospective applicant's District Education Office. In the case of prospective applicants from Mid Glamorgan, prospective applicants from South Glamorgan may apply to the Director of Education, Education Office, Kingsway, Cardiff, CF1 4JG. Prospective applicants from West Glamorgan may apply to the Director of Education, County Hall, Swansea, SA1 3SN. Postal requests should be marked "Glamorgan Further Education Trust Fund" and accompanied by a stamped self-addressed envelope.

Applicants should note that the rules provide that awards will not be made in respect of courses for which the applicant will not be paid secondment or will receive a mandatory grant or a grant from the Department of Education and Science or for which an applicant may expect to receive a discretionary grant from his Local Education Authority, unless there are exceptional or unusual circumstances relevant to the application.

The closing date for applications for awards tenable or payments to be made during the academic year 1984-85 and beyond is 31 May, 1984.

K. S. HOPKINS
Director of Education

County Hall,
Cathays Park,
Cardiff CF1 3NF.

(14586)

Courses

The University of Sheffield

MA DEGREE COURSE

The Language and Philosophy of Criticism

Applications are invited for the post of Co-ordinator of the MA Degree Course in the Department of Language and Philosophy of Criticism, University of Sheffield. The successful applicant will be responsible for the teaching of the course to students on the college's courses. The successful applicant will be responsible for the teaching of the course to students on the college's courses.

Further information and application forms may be obtained from the Director of Studies, University of Sheffield, Sheffield, S10 2TN. Tel: 0114 275275.

The University of Keele

Department of Geography

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MASTERS DEGREE/
DIPLOMA IN SURVEY
METHODS

Applications are invited for places in a two year part-time day release course leading to an MSc or a Diploma in Survey Methods.

The course will provide a theoretical background and detailed practical instruction on all aspects of survey methods including sampling, interviewing, data processing and data analysis. The course is run by Social and Community Planning Research (SCPR), a survey research institute, in association with The City University.

Applicants should normally possess a first degree or its equivalent.

Further details available from:

The Director, SCPR
Survey Methods Centre
35 Northampton Square
London EC1V 8AX.

(14585)

Miscellaneous

Child Care Department

(Director of Child Care: Professor Richard Whitfield)

RESEARCH AND
POLICY ADVISER

Save the Children is Britain's largest international children's charity. One third of all research carried out by the charity is for the benefit of children in the UK, reaching 10,000 children in need per day.

This new post arises from departmental restructuring, though it builds upon past research and development. Here is an exciting and unique opportunity to bring practically orientated scholarship to bear upon UK child care practice. The appointee will have an early opportunity to be involved in the further research-related appointments, and will join the Department's newly assembled Senior Management Team.